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Some New and Rare Records of Piroplasmosis with a List of the Species of Babesia and Theileria so far Recorded from Egypt

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CAMEL PIROPLASMOSIS

The first report of piroplasmosis in the camel was that of Lingard & Jennings in 1904 in India. These authors figured small coccoid and medium sized and large, pear-shaped and rounded intracorpuscular bodies composed of a blue cytoplasm and red chromatin, sometimes made up of more than one mass. The small parasites resemble a small *Babesia* or a *Theileria* and the larger ones resemble a medium sized and a large *Babesia*.

In 1917 Yakimoff reported in a short note the finding of an intraerythrocytic parasite in camels of Russian Turkestan, which according to him, resembled a *Theileria*. The parasites were few, always one in each red cell, rounded and, in stained preparations, with faintly coloured chromatin. He did not see any dividing forms and provisionally called the organism *Theileria camelensis*.

Wenyon in 1926 did not consider that these parasites belong to the genus *Theileria*, but included them in the genus *Babesia*.

Zaki Mohammad (1935) in a paper in Arabic reported a case of piroplasmosis in a female llama Camelidae, from the Giza Zoological Gardens in whose red blood corpuscles he found theileria-like, rounded, oval and pear-shaped bodies ranging in size from 1 to 3 μ in length and 0·5 to 1 μ in breadth. He found Koch's blue bodies in smears made from the spleen, liver, kidneys and lymph glands, and proposed to call the parasite *Theileria llamensis*.

Symptoms in this llama were a temperature of 41·6° C., accelerated respiration, capricious appetite, muscular weakness with consequent decubitus; there were intermittent fits of coughing and coma. The animal was constipated and the urine passed was dark yellow in colour. It was found dead after a few days and it had not lost condition. Blood was oozing from the nostrils and there was a discharge of blood and mucous from the rectal and vulvar openings. The mucous membranes of the eyes, the nose and the mouth were pale. On *post-mortem* examination, a considerable amount of blood-tinged pleural effusion was found in the chest cavity, and the lungs were severely congested; there were adhesions between the left lung and the pleura lining the wall of the chest. The pericardial sac was thick in places and contained a large amount of blood-tinged fluid. The heart was flabby and dilated and there were few haemorrhagic spots on both the auricles and ventricles. There was a large ecchymosis in the rumen. The mucosa of the fourth stomach was inflamed and contained several small haemorrhagic spots, several ulcers and ecchymoses. The small intestines were very congested and their mucosa contained many haemorrhagic spots distributed along the entire length. The large intestines were congested and the distal portion was yellowish and distended with gases. The spleen was normal in size and had thick dark fluid contents. There was fatty degeneration, hyperaemia and slight enlargement of the liver. The bile ducts contained a large quantity of thick bile. The kidneys were very congested. The lymph glands all over the body were slightly enlarged and oedematous. There were anisocytosis, poikilocytosis and leucopenia.

In a later publication and in the same year, Zaki Mohammad described piroplasmosis in a living camel from Assouan infected also with trypanosomiasis. In a large proportion of its red blood corpuscles there were also theileria-like bodies resembling those causing Egyptian fever in cattle, but smaller, measuring one to two-thirds of a micron in diameter. Affected red cells contained only one parasite. This author came to the conclusion that this parasite belongs to the genus *Theileria* and calls it *T. camelensis*, in spite of the fact that he could not find any Koch's blue bodies in the blood.

In 1938 Frullini in Dancalia, East Africa, found during the examination of camels for trypanosomes intracorpuscular parasites resembling piroplasms. These bodies were sometimes associated with trypanosomes and sometimes occurred in apparently healthy animals, while in other cases they were found in anaemic camels without evidence of trypanosomiasis. They varied in size, rarely exceeding a quarter of the diameter of a corpuscle, and were round, pear-shaped or rod-shaped. Multiplication forms are described as occurring usually outside the corpuscles, and consisting of one or more parasites enclosed in a capsule. When numerous, the small chromatin granules were scattered through the bodies or grouped round the circumference. It is suggested that such forms represent a stage of schizogony and resemble *Theileria*. On the other hand, pear-shaped forms occurred in couples or sometimes in four as a cross, so that it is possible that a mixed infection might have been involved.

1943 Wahby in a short note reports that he has met with a severe and fatal piroplasmosis in dromedaries in this country (Egypt). The same author in a private communication states the following facts: "It was on April 7th, 1943, when the Government Animal Hospital at Abbassiah sent me a blood smear from camel No. 7 of the Coast Guards of Ein-Shams, suspected trypanosomiasis, that I saw intraerythrocytic bodies, and a Koch's blue body inside a lymphocyte. There were severe signs of anaemia, anisocytosis and poikilocytosis. The animal had a temperature of 40° C.; the conjunctival mucous membranes were pale yellow; the camel was off food and in a state of chronic constipation. It was dull, debilitated, and in a state of malaise. Ticks were found in the perineum. The camel was newly purchased at Daraw this year and was originally imported from the Sudan; 6 c.c. of Acaprin (Bayer) followed by Repherin were injected subcutaneously.

"The same thing happened with regard to camels No. 215 on 14.4.43, No. 14 on 21.4.43, No. 568 on 27.4.43 and No. 252 on 20.5.43. On the next morning following the subcutaneous injection of Acaprin the temperature usually drops to near the normal and the animal regains its appetite five to seven hours after the first injection. A second dose of Acaprin is usually given within 24 hours from the first one. The camels were issued to their original camps after one week from the start of treatment. Blood smears examined on the third and fourth days after the first injection of Acaprin were found negative."

The original blood films and the ticks collected were sent to the present author for identification. The ticks were found to be *Hyalomma aegyptium* var. *dromedari*; the blood parasites will be reported on below.

DESCRIPTION OF THE PARASITES FROM THE CAMEL

On examination of stained blood smears sent to the present author by Dr. Wahby from camel No. 7, I found very few, but definite small, rod-shaped, comma-shaped, ovoid and rounded theileria-like bodies, 0·5 to 1 micron in size, inside the red blood cells. There were also larger pear-shaped bodies about 2 microns in length, and some were observed to be in the process of segmentation. One or more parasites were met with in each red cell. A lymphocyte was also found with schizont-like bodies in its cytoplasm, the nucleus of the lymphocyte being compressed by those bodies into an unusual shape (Fig. 1). The blood smears showed marked anisocytosis and poikilocytosis. Pessary forms and reticulocytes were also met with.

Although Zaki Mohammad in 1935 failed to find Koch's blue bodies in the blood of camels from Egypt, and did not illustrate the parasites, nevertheless this piroplasm corresponds to that described and referred by him to *Theileria camelensis*. This name was previously provisionally given to a piroplasm in camels by Yakimoff in 1917, as explained above.

In smears from another camel, No. 189, also sent to me for examination by Dr. Wahby, I found very few intracorpuscular theileria-like rod-shaped and pear-shaped bodies and also what seem to be multiplication forms enclosed in a definite capsule and which stain pinkish-violet while the red blood corpuscles stain bluish-red with Romanowsky stains. Those forms were in different stages of development, and have a tendency to occupy the periphery of the red cell. Young forms, however, occupy the centre of the cell. Usually one capsule is found in each cell, but two have been noted to occupy one erythrocyte, which may retain its shape or become enlarged and rounded. These capsules range in size from three to eight microns and may contain from seven to 14 dividing bodies. Free extra-corpuscular capsules were also met with and may contain up to 17 dividing forms (Fig. 2).

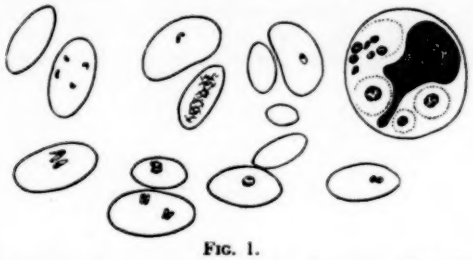

FIG. 1.

Theileria camelensis, the collective figure from camel No. 7, shows the parasites in the red blood cells, a reticulocyte, aniso- and poikilocytosis as well as schizont-like bodies in a lymphocyte.

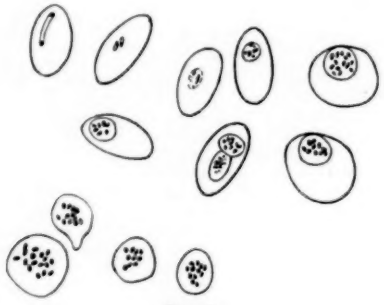

FIG. 2.

T. camelensis, the collective figure from camel No. 189, shows few intracorpuscular parasites, as well as what seem to be multiplication forms in a capsule, free and inside the red cells.

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PIROPLASMOSIS OF SHEEP AND GOATS

Mason in 1915 and 1916 reported in Sudanese and Egyptian sheep a form of piroplasmosis of which the essential feature was that the causal organism was a *Theileria* and not a *Babesia*. The causal organism, as seen in the red blood corpuscles, closely resembles the corresponding element in East Coast fever, but is even more minute; Koch's blue bodies are found in the spleen, glands and infarcts. The spleen is enlarged to three and even four times its normal weight. The kidneys contain white infarcts. The stomach shows linear congestion, and the intestines some degree of patchy inflammation. In 1920 the same author reported *Babesia ovis* in Egyptian sheep. In 1926 Wenyon stated the following: "As the name *Theileria ovis* was suggested for the small parasite belonging to the genus *Babesia*, it is no longer available for the true *Theileria* of sheep, though Mason uses it in this sense."

The present author came across the following species in Egypt: *Babesia ovis*, *B. sergenti* and *Theileria hirci*, the first two from sheep and the last from a goat from Kena. The following short report is given on the parasites encountered.

BABESIA OVIS

Although this species was previously recorded by Mason in sheep in Egypt, it is doubtful if he really saw it, according to Wenyon's recent classification, as the former author gave neither a description nor an illustration of this parasite. In smears examined by the present author rounded forms were observed to be quite common with their chromatin divided into one, two, three and four portions, usually arranged around the periphery of the parasite. They are about 2 microns in diameter. Pear-shaped forms were also met with and they may be found single, in pairs or in fours in the red cells. Their chromatin was usually towards the broad, rounded pole of the parasite. They measure 1 × 2·5 microns in diameter. The parasites tended to occupy the periphery of the red cells which showed poikilo- and anisocytosis (Fig. 3).

BABESIA SERGENTI

This is a smaller *Babesia* than the preceding and is here recorded from this host for the first time in this country (Egypt). Rounded, ovoid, pear-shaped and coccoid forms of about 1 micron in diameter were met with. Poikilo- and anisocytosis was also noticed in infected blood (Fig. 4).

THEILERIA HIRCI

This parasite was observed in the blood of a goat from Kena. This is the first report of this species and from this host in Egypt. The parasites are small and of about the same size and morphology as the previous one discussed. Schizonts in lymphocytes in the circulating blood were observed. Aniso-, poikilocytosis as well as crenated forms were noted in the infected blood (Fig 5).

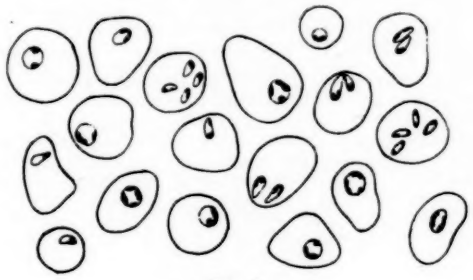


FIG. 3.

Babesia ovis from sheep.

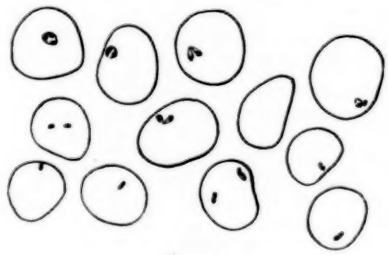
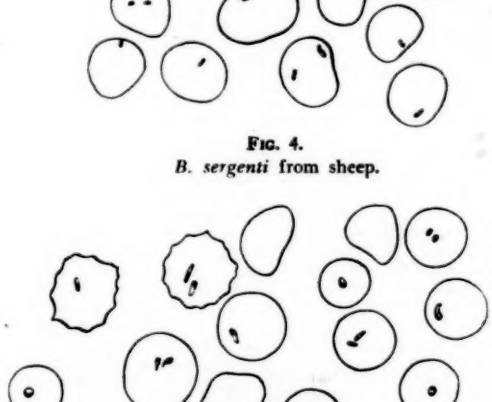


FIG. 4.

B. sergenti from sheep.



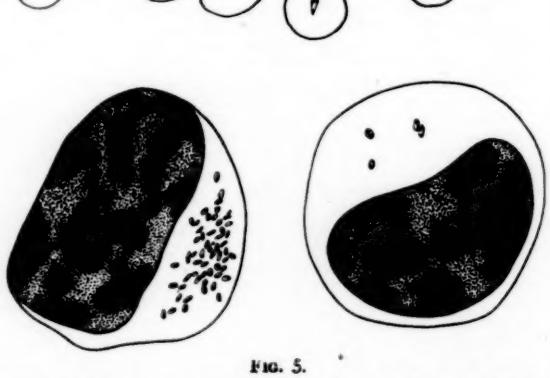


FIG. 5.

T. hirci from a goat. Intraerythrocytic as well as schizonts in lymphocytes.

A LIST OF THE SPECIES OF *BABESIA* AND *THEILERIA* RECORDED SO FAR FROM DOMESTIC ANIMALS IN EGYPT

In cattle and buffaloes: *B. bigemina, B. bovis, B. mutans* and *T. annulata.*
In camels: *T. camelensis.*
In sheep and goats: *B. ovis, B. sergenti* and *T. hirci.*
In equines: *B. equi* and *B. caballi.*
In dogs: *B. canis.*

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Summary

(1) Piroplasmosis in the camel (*Camelus dromedarius*) is reported on and the parasites are described and illustrated.
(2) Symptoms of this condition in the camel, so far unknown in the literature, are recorded.
(3) The action of Acaprin on camel piroplasmosis is reported on.
(4) Ticks found on infected camels were identified.
(5) A *post-mortem* examination of a similar case, in an allied animal (the llama), is also recorded.
(6) In sheep two species of *Babesia* and a *Theileria* are described and illustrated. They are in all probability recorded for the first time in this country (Egypt).
(7) A list of all the species of *Babesia* and *Theileria* so far recorded from Egypt is made out.

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References

CARPANO, M. (1932.) On the principal types of piroplasm observed in bovines in Egypt. *Bull. No.* 116, *Vet. Service, Min. of Agriculture*, Egypt, p.1.
COWDRY, E. V., & HAM, A. W. (1932.) Studies on East Coast fever. 1. The Life Cycle of the Parasite in Ticks. *Parasitology.* **24.** p.1.
——, & DANKS, W. B. C. (1933.) Studies on East Coast Fever. II. Behaviour of the parasite and the development of distinctive lesions in susceptible animals. *Parasitology.* **25.** p.1.
FRULLINI, P. L. (1938.) Tripanosomiasi e piroplasmosi nei camelli della Dancalia. *Arch. ital. Sci. med. colon.* **19.** p.340.
JACOB, E. (1939.) Die Verbreitung der rinder-Piroplasmose im Gau-Niedersachsen. *Z. InfektKr. Haust.* **55.** p.117.
KIKUTH, W. (1938.) Die spezifische Behandlung der Piroplasmosen mit Acaprin. *Vet.-med. Nach. Bayer-Meister Lucius.* Suppl. p.84.
LAVRENT, EV, P. A. (1938.) Kvoprosu klinicheskoi diferentsial'noi diagnostiki piroplazmozov krupnovo rogatovo skota. *Trud. Uzbek. nauchn. issled. vet. Stan.* Tashkent. **10.** p.54.
——. (1938.) Opyt lecheniya theilerioga krupnovo regatovo skota piroplazminom. *Ibid.* **10.** p.196.
LESTOQUARD, F. (1924.) Les piroplasmoses du mouton en Algérie (Note préliminaire). *Bull. Soc. Path. exot.* **17.** p.122.
——. (1924.) Deuxième note sur les piroplasmoses du mouton en Algérie. L'anaplasmose: *Anaplasma ovis*, nov. sp. *Ibid.* **17.** p.784.
——. (1925.) Troisième note sur les piroplasmoses du mouton en Algérie. La piroplasmose vraie: *Piroplasma* (*s. str.*) *ovis.* (*nov. sp.*). Comparison avec. *Babesiella ovis. Ibid.* **18.** p.140.
LINGARD, A., & JENNINGS, E. (1904.) A preliminary note on a pyroplasmosis found in man and in some of the lower animals. *Indian med. Gaz.* **39.** p.161.
MASON, F. E. (1915.) Piroplasmosis in Sudanese cattle. *Annual Report of the Vet. Serv. for the year* 1914. p.27. Egypt.
——. (1916.) A new form of piroplasmosis in Egyptian sheep. *Ibid. for the year* 1915. p.41.
——. (1920.) Piroplasmosis. *Ibid. for the year* 1916. p.22.
——. (1920.) Piroplasmosis. *Ibid. for the year* 1917. p.23.
——. (1922.) Egyptian fever in cattle and buffaloes. *J. comp. Path.* **35.** No. 1. p.33.
MOHAMMAD, Z. (1935.) On the finding of a malarial parasite (piroplasma) in the blood of the Llama (Camelidae). *Monthly Vet. Bull., Dept. of Vet. Serv., Ministry of Agriculture*, Egypt, Oct., 1934, p.1. (In Arabic.)
——. (1935.) A note on the finding of a malarial parasite (piroplasma) in the blood of camels. *Ibid., Nov.*, 1934. p.1. (In Arabic.)
MOTAS, C. (1902.) La piroplasmose ovine "Carceag." *C. R. Soc. Biol.* **54.** p.1522.
NUTTALL, G. H. F., FANTHAM, H. B., & PORTER, A. (1909.) Observations on *Theileria parva. Parasitology.* **2.** p.325.
——, ——. (1910.) *Theileria parva*, the parasite of East Coast fever in cattle. *Ibid.* **3.** p.117.
RATZ, VON S. (1913.) Uber die Piroplasmose der Schafe. *Centralbl. Bakt.* 1, Abt. 68. p.194.
SACEGHEM, VON R. (1938.) Traitment de la theileriose due a *Theileria parva*, par l'acaprine. *Ann. Soc. Belge. Med. Trop.* **18.** p.343.
SERGENT ED., PARROT. L., & HILBERT. D. N. (1922.) Morpho'ogie de piroplasmoses observés en Algerie chez le mouton (*Gonderia ovis*). *Bull. Soc. Path. exot.* **15.** p.789.
WAHBY, M. M. (1943.) Gleanings of an Egyptian abattoir. *Vet. J.* **99.** No. 7. p.189.
WENYON, C. M. (1926.) Protozoology. A manual for medical men, veterinarians and zoologists. II. London.
YAKIMOFF, W. L., et Collaborateurs. (1917.) Maladies du Turkestan russe a parasites endoglobulaires. *Bull. Soc. Path. exot.* **10.** p.302.

The Walker-Gordon system of milk production, which centres round the famous "Rotolactor," a "milking merry-go-round," will shortly be offered to dairymen and milk dealers throughout the world: the outbreak of World War II put a halt to such development.—*Vet. Med.*

Greyhound Racing

by

HAMILTON KIRK, M.R.C.V.S.

The growth in popularity of greyhound racing has been so rapid that there are still many people quite ignorant of the organizations which control and conduct this national pastime.

It is not the intention in this short article in our professional journal to go into the origin of greyhound racing and its growth; those wishing to do so I would refer to the "Greyhound Racing Encyclopaedia." The chief object is to view the conduct of greyhound racing from the veterinary angle, but before doing so it is as well to name the controlling bodies of the sport and to state briefly their functions.

The National Greyhound Racing Club is the equivalent in greyhound racing to the Jockey Club in horseracing. All owners of greyhounds wishing to race under the Rules of the Club have to be registered with the Club as do their greyhounds. Only greyhounds registered in the English and Irish Stud Books are eligible for registration with The National Greyhound Racing Club. All racecourses wishing to race under Rules have to receive a licence from the Club, and all officials of racecourses, including veterinary surgeons, trainers and kennelmen/maids, have to obtain a licence from the Club.

The Stewards of The National Greyhound Racing Club hold enquiries into the running of greyhounds, and also sit as a disciplinary body having power to warn off, disqualify, fine, or withdraw the licence of, persons contravening the Rules of Racing. There has always been a well-known veterinary surgeon among the Stewards to give advice on matters appertaining to the veterinary profession, and a close liaison is maintained with the National Veterinary Medical Association. From this it is clear that The National Greyhound Racing Club greatly appreciates the value and importance of the veterinary profession in greyhound racing.

The next body is The National Greyhound Racing Society, which is equivalent to the Racecourse Owners' Association in horseracing, being composed of owners of racecourses licensed by The National Greyhound Racing Club. The Society deals with domestic matters affecting its member racecourses, individually or as a whole.

Finally, there is the Greyhound Racing Board of Control, of which the Senior Steward of the Club is the Chairman, and which is composed of an equal number of members of the Club and the Society. To this body, matters affecting the general policy of greyhound racing are brought for discussion.

Let us now consider the important part played by the veterinary surgeon in this sport. In every sport where betting takes place malpractices are likely to be attempted. The gravest malpractice in greyhound racing is the doping of greyhounds by racecourse gangsters. Also to be guarded against is the giving of unauthorized stimulants to greyhounds by trainers prior to racing, and the improper preparation of greyhounds for trials. It is in the endeavour to combat such practices as these, and to ensure that the greyhound does not run unless it is fit, that the veterinary surgeon can play a very important part. In view of the great value of the racing greyhound to-day, it is obvious that the animal is deserving of the highest skilled veterinary attendance from its birth to the time that it competes in one of the classic races.

The veterinary surgeon attending a greyhound racecourse needs to be not only a good clinician and surgeon, but a man able to make quick and sound decisions, and he should be of sufficient strength of character to be able to maintain his decision in the event of a subsequent enquiry and in the face of possible lay opposition.

The responsibilities of the veterinary surgeon attending a greyhound racecourse are very heavy. In fact, he is one of the most important persons present at trials or races. It is for him to decide whether a greyhound is fit to run, and he should be the final person to handle any greyhound prior to it leaving the paddock to take part in a race. It is also his responsibility to note, and if necessary report on, the condition of a greyhound prior to its race and on its return to the paddock after racing.

During the war, the Stewards of The National Greyhound Racing Club found it necessary to permit veterinary surgeons to act as Stewards of a Meeting in addition to their veterinary duties. This permission is now withdrawn, since the Stewards have very wisely decided that the veterinary surgeon has sufficient veterinary work to perform without being encumbered with the duties of a Steward. Their opinion is that he is a purely professional man who should be in a position to give an unbiased opinion to the Stewards of the Meeting.

It is clear that great responsibilities are thrown on the shoulders

of the veterinary surgeon, and therefore the very best men are required as veterinary surgeons at greyhound racecourses. In order to obtain these men, full and adequate salaries should be paid, and the veterinary surgeon should insist on the best possible facilities being provided for his work.

It is believed that there are cases where the salary offered by the management of a racecourse is not adequate to attract the type of surgeon best fitted to carry out the difficult and highly professional duties expected of him. The question of the salary paid by the management of a racecourse to the veterinary surgeon is a matter of contract between the parties concerned. It is suggested that the National Veterinary Medical Association might well cause investigations to be made as to the salaries paid, and should it transpire that in some cases the salaries are not commensurate with the importance of the work and professional knowledge expected from a veterinary surgeon, the National Veterinary Medical Association might be well advised to approach the Society on the matter.

Racecourse managements should be reminded when contracting with a veterinary surgeon for his professional services, that Rule 23 of the Rules of Racing requires a veterinary surgeon's attendance at trials as well as race meetings. It is quite certain, however, that neither the "National," the N.G.R.C. nor the N.G.R.S. would support inadequate emoluments.

CLINICAL COMMUNICATIONS

Demodectic Mange in the Bovine

by

E. A. McPHERSON, M.R.C.V.S.

CARLISLE

A clinical case of *Demodex* infection in the bovine was recently encountered during routine tuberculin testing, when a five-year-old Ayrshire cow in a herd of 65 cattle was noted to have numerous nodules in the skin, particularly on the forequarters. The owner volunteered the information that the condition had been present for some months, and that two years previously another animal, similarly affected, had recovered without treatment; the latter animal was examined and found free from any evidence of skin disease. It was seen that groups of hairs were raised up from the general level of the coat of the affected animal and, on running the hand over the body surface, nodules were palpated in the skin and found to be most numerous over the scapula and on the point of the shoulder—the hand covering perhaps a dozen at one time. Numerous lesions were present on the lumbar and dorsal thoracic areas, a few at the base of the neck, on the thoracic and abdominal walls and on the arm and forearm regions. A few isolated nodules were detected on the lateral surface of the hind limb, but only one lesion was noted distal to the hock joint. While the first impression was of nodules in chain formation, further consideration did not substantiate this. Lesions were absent from the head and anterior part of the neck. The general condition of the animal was good and there was no pruritus.

The lesions varied in size from that of a lentil to that of a hazlenut and were non-painful. The skin between nodules was clinically normal. In the early small lesion the epidermis was intact, but, on removing it with a scalpel one, or up to four or five, enlarged hair follicles were noted; in large nodules the follicles were fused. As fusion of these affected follicles occurs, the reaction in the dermis increases and the epidermis at the centre of the lesion necroses. The nodule now "ripens" and a very thick cheese-like pus oozes out on the surface. After this primary discharge the content of the nodule tends to become desiccated, and the desiccated material, adherent as it is to the necrotic epidermis and containing now the hairs from the affected follicles, forms a plug in a rounded ulcer-like lesion. Removal of the plug at this latter stage reveals a healthy healing process. Insertion of the point of a scalpel with a turning movement into the centre of a nodule produces a quantity of pus—up to 6 mm. by 1 mm. or 2 mm. in mature nodules. The pus is very thick and there is little tendency for it to run. It is of a yellowish, or yellowish grey, colour, odourless, and, in many cases, requires teasing out to procure reasonable smears on a microscopic slide.

The material was first examined in smears stained by the Ziehl-Neelsen method, but no acid-fast bacilli were detected. Some scale-like acid-fast material was noticed and further search showed cigar-shaped acid-fast bodies. A wet film preparation revealed large numbers of adult and larval stages of the mite *D. folliculorum* var. *bovis*. The pus from the nodules was almost a solid mass of mites. Attempts to mount permanent preparations were unsuccessful.

The animal was examined a month later (end of October) when fewer lesions were present. The absence of a scratch reflex was remarkable. The animal was suffering no ill-effects from the presence of the parasites.

DISCUSSION

Records of *Demodex* infection of bovines in Britain are rare. In this herd two cases appear to have occurred in the past two years, but the disease is apparently not very infectious. The condition was primary and not secondary to any other disease. The importance of the condition lies in differentiation from skin tuberculosis in any eradication programme, so that bovine infected cattle are not left in herds as skin tuberculosis reactors. The results of the comparative intradermal tuberculin test were: A. 8.8.10; M. 9.9.10. Hedstrom,[1] on the other hand, postulates that *Demodex* infestations may be associated with reactions to the tuberculin test. He found *Demodex* mites in 26 pieces of skin out of nearly 400 excised lesions, chiefly from positive and doubtful reactors in Sweden; of the few of the 26 cases examined *post mortem*, none showed tuberculous lesions. The remainder were presumed non-tuberculous.

References in the literature are not numerous—Boddie[2] refers to the condition as rare in Great Britain; Momberg-Jørgensen[3] describes a case in a heifer where the lesions were similar to the above case in distribution but no rupture of the lesion occurred, the nodules appearing to shrink during the winter. Udall[4] refers to the condition as infrequent in cattle and incurable. Mönnig[5] describes the condition in cattle but gives no indication of the incidence of the disease.

REFERENCES

[1]HEDSTROM, —. *Vet. Bulletin.* **13.** 207.
[2]BODDIE, G. F. (1944.) Diagnostic Methods in Veterinary Medicine. Oliver and Boyd.
[3]MOMBERG-JØRGENSEN, H. C. (1943.) *Maanedsskr. Dyrlaeg.* **55.** 109-115.
[4]UDALL. (1933.) Veterinary Medicine, p. 129. Ithaca, N.Y. Norton Printing Co.
[5]MÖNNIG, H. O. (1908.) Veterinary Helminthology and Entomology. Bailliere, Tindall & Cox.

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Entropion in the Cat

by

RICHARD, S. SMYTH, M.R.C.V.S., D.V.S.M.,
LINCOLN

Within the past month I have seen in practice two kittens suffering from entropion, and as it appears from Hamilton Kirk's "Index of Diagnosis" (1945), page 224, that this condition in the cat is very rare, I am reporting these cases for record purposes.

The first was brought for treatment. I found that one lower eyelid was turned inwards, causing lachrymation and slight corneal opacity. The owner informed me that the eye never opened properly and was always wet. The condition was relieved by the usual operation.

About two weeks later I was asked to destroy a number of cats at a house—they represented three generations. One five-week-old kitten was seen to have an eye affected.

On *post-mortem* examination the lower eyelid was found rolled inwards, and the lashes projected downwards beneath the eyeball. The palpebral fissure was too small to accommodate the lid in the normal position. None of the other cats at the house was affected.

It is probable that the condition is congenital, but not hereditary.

WEEKLY WISDOM

In an editorial in the New York Times, *under the title of "The Lesson of the bomb," it was claimed that to leave scientists quite free in their work was a policy of* laisser-faire. *In a masterly rejoinder Dr. Warren Weaver made the position of pure science quite clear: "Even if some way were found to force scientists to work within such a system, every evidence of scientific history and scientific fact emphasizes that the procedure would fail. . . . The humdrum following up of ideas and methods already at hand—this can be charted out and scheduled by men of moderate ability. But one can no more produce fundamental and truly original work by means of some grand over-all planning scheme for science than one can produce great sonnets by hiring poets by the hour. . . . The important gaps in science are the ones we do not see and cannot foresee."*—"The Outlook for Physiology," C. LOVATT EVANS, *The Lancet,* January 18th, 1947. *1.* No. 3, pp. 89-93

Diet and Canine Hysteria

In our issue of January 11th we reproduced from the *British Medical Journal* of December 14th, 1946, the article by Sir Edward Mellanby entitled "Diet and Canine Hysteria: Experimental Production by Treated Flour," together with that journal's editorial comment headed "The Menace of Bleached Flour," while the subject of canine hysteria, with special reference to the dietetic aspect, was dealt with editorially in our issue of January 18th. We publish below the contributions on this matter from members of the veterinary profession which have appeared in the correspondence columns of the *British Medical Journal*.

January 4th Issue

SIR,—Allow me to congratulate you on the publication of Sir Edward Mellanby's article (Dec. 14th, p. 885) and your excellent leading article thereon (p. 903). For some years now the veterinary profession have realized the importance of a toxic substance or toxic combination in diet as being a direct and positive cause of specific hysteria, so-called Fright's disease, or "running fits," and Sir Edward's contribution has gone a long way to narrowing down the possible causes. As you indicate, the next step is to study the result of feeding agenized wheat gluten to dogs, and, if this fails to produce the disease, then to study the effect of the agene process on all or part of the vitamin B complex.

M. B. Richards, in the *British Medical Journal* (1945. **1.** 433), describes a pyridoxine deficiency in suckling rats whose dams had received a high aneurine content. In *Nature* (1946. **158.** 306) she records that in the experiment described above she observed but did not report that fits were not manifested in litters where does received national wheatmeal flour 85 per cent. extraction instead of white flour. I understand that in this part of the country during the war it has not been normal practice to apply the agene or any bleaching or improving process to flours of high extraction rate and it is possible that Mellanby's work would throw fresh light on Richards's experiment.

By the same token the next interesting step would be to feed pyridoxine with diets known to be capable of producing hysteria, and if this prevents the disease the problem will be further elucidated. The veterinary profession has known for a long time that certain batches of dog food are capable of producing hysteria, and I have access at the moment to a bag of dog food which will produce hysteria in less than a week from the time feeding is commenced. I have had some pyridoxine on order for some months, which I hope to receive shortly, and propose using it as a therapeutic on dogs fed on a known hysteria-producing diet. Mellanby's article indicated that rats were not affected, but it may well be that the hysteria syndrome is only manifested in adult rats when the toxic factor is present in large quantities, and small quantities can only be demonstrated in suckling rats whose dams have been fed on a hysteria-producing diet.

With regard to the human aspect of the problem I do not think the new facts necessarily present a grave problem, as there is no doubt that pre-war experience demonstrated that the toxic factor was much greater in dog biscuits than in bread—even white bread—as evidenced by observation of kennels of dogs fed on both these diets. On the contrary, I have frequently seen hysteria developing in kennels where ship's biscuits (emergency lifeboat rations) were fed, and I have, very infrequently, seen hysteria follow feeding with "brown bread." Any complete set of experiments would require to take into account the high temperatures associated with baking.

Sir Edward's description of the fits is excellent, and it is a matter of some importance that in specific hysteria the dog's nervous condition is not normal between fits. I would like to issue a word of warning here. In the past, as indicated in the article, a multiplicity of causes were implicated as being responsible for hysteria, and this was not without some reason. Conceding that specific hysteria occurs as described and is caused by a toxic factor in food, it *must* be recognized that hysterical attacks, clinically indistinguishable from those described, do occur due to the virus of distemper in dogs that have had no hysteria-producing foods. In the past two years outbreaks of distemper of a very virulent type have frequently been ushered in by typical hysteria, to be followed later by the more common distemper symptoms. It may be that the virus creates a set of circumstances whereby larger quantities of an accessory food factor are required than is normal, analogous to the increased demand for biotin in rats given avidin.

Another interesting feature whereby a virus appears to have an antivitamin effect occurs in distemper in puppies between the ages of two and four months. Such animals develop the condition described by May Mellanby as dental hypoplasia, even while large quantities of vitamin D are given during the disease. Mellanby produced this condition in the disease-free puppies by diets deficient in D, and it might be that in distemper there is a failure to assimilate D because of associated bowel catarrh. Or, again, it may be that the requirements are greatly increased by the action of the pathogenic agent. I have tried the effect of radiation by ultra-violet light in such cases, but in practice there are difficulties in carrying this out and results have been inconclusive. The question could be readily solved by the experimental method. An investigation of such altered vitamin requirements would probably indicate the way to their more rational therapeutic use.—I am, etc.,

Glasgow. WM. L. WEIPERS.

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January 18th Issue

SIR,—The preliminary report (Dec. 14th, 1946, p. 885) of Sir Edward Mellanby on the experimental production of the "hysteria" syndrome in dogs by feeding "agenized" flour is of very considerable interest to the veterinary profession. Although experience had forced the majority of practitioners to consider the causative factor to be located in wheaten products, yet few appeared to have any idea what that factor was or how it worked. Sir Edward's findings will also prove to be of the greatest assistance to those who are studying canine encephalomyelitis and distemper virus encephalitis, since in both these diseases the "hysteria" syndrome frequently complicates, or rather is superimposed on, the other symptoms in such a way as to puzzle the keenest observer.

The purpose of this note is to suggest the precaution that before any feeding experiments on human volunteers are conducted a thorough study should be carried out of the histology of the central nervous system of (1) heavily "agenized" dogs, and (2) "agenized" dogs infected by distemper virus, for the following reason. During the course of a study of the pathology of disseminated encephalomyelitis of the dog in 1927–29 it was demonstrated by J. R. Perdrau & L. P. Pugh (*J. Path. Bact.* 1930. **32.** 79) that four out of the 14 cases investigated showed demyelination of the type commonly found in subacute disseminated sclerosis, and, just as in the case of its human counterpart, the hypothetical demyelinating toxin could not be discovered. In these circumstances it does not seem beyond the realms of possibility that Mellanby's "toxin" may well open up a still wider field of greater importance than would at first appear.—I am, etc.,

Sevenoaks. L. P. PUGH.

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February 1st Issue

SIR,—As a member of the sister profession may I be allowed the courtesy of the use of your columns to comment upon the report (Dec. 14th, 1946, p. 885) of Sir Edward Mellanby's feeding experiments? This piece of work has aroused lively interest in the veterinary world, and we would all most heartily welcome a final elucidation of the aetiology of canine hysteria. While of course according the greatest respect to the work of so eminent a scientist as Sir Edward, I feel, as a clinician, that his findings do not quite fit in with all the known facts concerning hysteria as it occurs in the field. In the first place, Sir Edward stresses the occurrence of epileptiform fits among the symptoms, unconsciousness lasting sometimes half an hour up to 36 hours; yet I must say at once that such fits are not a prominent feature of canine hysteria in the field. Is the condition produced by Mellanby that which a veterinary surgeon recognizes clinically as hysteria, or is it some other condition?

I personally have always held that canine hysteria had an alimentary aetiology, and I favoured a toxic rather than a deficiency factor. The recent experiments appear to confirm the first belief and incriminate treated wheat flour as the actual cause. It is alleged that dogs fed on a diet containing agenized flour will contract hysteria, while control animals fed on the same diet but with the cereal portion not agenized will not do so. It is said that 90 per cent. of the flour consumed in the country is agenized, and it is scarcely conceivable that animals, whether consuming bread or biscuits, can avoid consuming agenized flour. The racing greyhound, of which there are many thousands, is normally fed (in times of abundance) upon stale bread soaked in gravy, mixed, of course, with other foodstuffs. The majority of this must have been agenized.

It is pertinent therefore to ask why all these animals up and down the country have not been in a perpetual state of hysteria. Yet the occurrence of hysteria is comparatively rare and very sporadic. Can it be contended that an immunity is acquired from the consumption of bread? If so, why are only some and not all immunized? It is certainly true that recurrence in the same animal is most unusual.

It has been my experience, and that of many others, not excluding Sir Edward, that to change the food or its source has been practically all that was needed to abort an outbreak in a kennel or stop an attack in an individual. This must have meant, in innumerable cases changing from one make of bread or biscuit to another make; in effect to feed on food made from an entirely different consignment of flour. This led to my strong belief that the aetiological factor was

possibly a parasite of wheat or a mould on the stale bread, especially as Russell Greig had proved (in 1922) that what he then called epileptiform convulsions could arise from the presence in the alimentary tract of a wheat parasite—*Tilletia tritici* (bunt or stinking smut). Such a theory is not yet disproved.

Although it is claimed that the real incidence of hysteria occurred at about the same time as the introduction of the agene process, yet there are in the literature references to hysteria made earlier than this, and I have known of the disease almost as long as I have been in practice—now 35 years. It is open to doubt if hysteria has really increased from the very early days when it was first reported, since it may only be that the diagnosis has been more complete. In the kennel of some 300 greyhounds over which I have veterinary control I have not had to report a single case of hysteria for more than a year. The last attack—in about half a dozen dogs—occurred about two years ago. I have seen about seven cases in private practice during the past year. In the meantime I am making enquiries in other countries, which may throw light on the subject. It would be enlightening to know the *total number* of dogs employed in Mellanby's experiments and what was the actual percentage which contracted hysteria.

There are other issues, too, which could be raised if space would permit. Anxiety has been expressed in the lay Press and elsewhere that humans should be obliged to consume food which is proved to be unsafe for dogs. Is it assumed that such food would produce hysteria or epileptiform fits in man? So far as I am aware there seems as yet little evidence that the general health of mankind has suffered in consequence; at least I am not aware that either of the above conditions has been on the increase in man.—I am, etc.,

London, N.W.11. HAMILTON KIRK.

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February 15th Issue

SIR,—In further reference to the letter (Feb. 1st, p.200) I sent you about a fortnight ago on the above subject it may interest your readers to know that I have just received a communication from the director of the National Veterinary School at Lyons, France. Professor A. Brion says that "fright disease" or hysteria has been rife in France, especially in the south. All ages and all breeds of dogs seemed equally susceptible. He says, further:—

> "In France we do not believe there is any connection between diet and canine hysteria. We have observed no reaction caused by the feeding of biscuits to dogs . . . and it has been proved in practice that the biscuits for dogs which we have had at our disposal were not harmful . . . mongrels which received only the scraps from the kitchen were equally affected. . . .
>
> "These are the arguments upon which we have reached the conclusion that biscuits do not play any part in the cause of canine hysteria. In any case, in France flour is not subjected to any bleaching or improving treatment. . . . We know only of a poor quality flour of 85 to 90 per cent. extraction and (during the occupation) no extraction. Therefore our dogs suffering from hysteria eat bread made without any addition of chemicals to the flour. . . . That is why the work of Sir Edward Mellanby, although very interesting, does not explain all cases of hysteria; and, in particular, the cause of the French hysteria is quite different."

These facts appear to bear great significance and seem to show that some other factor in the aetiology remains to be elucidated. In addition we do know that a large number of dogs in England subsist entirely upon horse flesh, and yet they too are not immune from hysteria.—I am, etc.,

London, N.W.11. HAMILTON KIRK.

ULSTER'S FOOD SUPPLIES FOR GREAT BRITAIN

In peace, as in war (says *Ulster Commentary* in its March issue), Ulster sends immense supplies of food to Great Britain. The figures for 1946, just published, show how great is this contribution to the national larder—particularly welcome in these days of world shortages and continued rationing. For a number of years Ulster has helped materially to meet the milk shortage in Scotland during the winter months. Supplies have been progressively increased until some three million gallons of Ulster milk are sent across the Irish Sea each year, the cash value being about £250,000. Last year fat cattle and sheep to the value of £5,357,000 were shipped from Ulster to Great Britain. In the same period the shipments of eggs totalled 311,000,000, representing a value of £4,200,000. The value of Ulster's egg production for the year exceeded £5,000,000. Although the production of pigs in Ulster has had to be drastically curtailed owing to the shortage of feeding-stuffs, the farmers are ready, as soon as the opportunity presents itself, to restore pig production rapidly and to recover for the Ulster bacon industry the high place it formerly held on the British market. [The note also makes reference to impressive supplies of poultry, potatoes, apples and seeds.]

ABSTRACTS

[Oestrogen in Late Pregnancy Mare Serum and Ovarian Inhibition. COLE, H. H. (1946.) *Endocrinology*. **30**. 177-182.]

In the year 1930, Cole and his co-workers at the University of California showed that the blood serum of mares in the early stages of pregnancy contains large amounts of a gonad-stimulating hormone, but that in late pregnancy the serum produces ovarian inhibition when injected into immature female rats. Furthermore, it may be recalled that during late pregnancy the ovaries of the mare are atrophic structures. The studies reported by Cole in the present paper indicate that oestrogens are present in late pregnancy serum, and that these are responsible for the ovarian inhibition produced in the rat by late pregnancy serum. The evidence obtained by the author on which these findings are based may be summarized as follows: (i) late pregnancy serum contained no detectable anti-gonadotrophin; (ii) ovarian inhibition was produced in the rat by daily doses (between 0·5 and 1 R.U.) of alpha oestradiol benzoate just below the amount (1 R.U. per day) necessary consistently to produce full oestrous smears in immature rats on the fourth day after the initial injection. This relation between the vaginal smear and ovarian inhibition in the rat was comparable to that found with late pregnancy mare serum.

One of the most interesting results of this study concerns the small amount of oestrogen necessary to produce ovarian inhibition, and also the very slight increase in dosage necessary to produce stimulation rather than inhibition. The present work gives no clue as to whether oestrogen acts directly upon the ovary or indirectly through the pituitary. Cole, after briefly reviewing the available evidence on the role which oestrogens may play in controlling ovarian activity, concludes that it seems fairly certain that oestrogen stimulates the ovary directly over short periods and, conversely, depresses the ovary indirectly by inhibiting the secretion of gonadotrophin by the pituitary. He finds, however, that the inhibitory effect produced by very small doses as shown in the present paper is difficult to interpret, but the fact that the ovary may be inhibited or stimulated by physiological doses adds weight to the view that oestrogen plays an important part in regulating the oestrous cycle.

N. J. S.

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[Stimulating the Sex Drive of Bovine Males in Artificial Insemination. HART, G. H., MEAD, S. W., & REGAN, W. M. (1946.) *Endocrinology*. **30**. 221-223.]

Three bulls, which had at first worked satisfactorily for the artificial collection of semen, showed reduced sex drive within a few months and produced poor quality semen, the ejaculate consisting on some occasions of accessory gland secretion only. For periods of time these bulls completely lost sexual libido. Hormone therapy by subcutaneous injections of P.M.S. and testosterone propionate was tried with unsatisfactory or negative results. One of the bulls was returned to natural service and immediately became an active breeder. With the other two bulls experiments were then staged to test the psychical influence of a cow in oestrus on their sex drive. It was found that, when presented either with a cow in oestrus or with a non-oestrous cow whose genitalia had been smeared with a mixture of vaginal mucus and urine, both bulls mounted at once and served the artificial vagina actively; service was also repeated without difficulty a second and a third time in rapid succession. The ejaculates produced were in most instances copious, and consisted of high-quality semen. In the case of one of the bulls, the sight of two other bulls being used on a cow on heat near his pen so stimulated his sex drive, that when presented with a non-oestrous cow he mounted and vigorously served the artificial vagina twice. The second of the two bulls under consideration was returned to the breeding centre for routine use; he was successfully used once on a cow in heat but one week later he refused to mount the non-oestrous cow regularly employed (as a teaser) at the centre.

The authors suggest that it is the odour from the female in heat rather than her behaviour that attracts and psychically stimulates the bull. The effect of this odour would seem to be so marked that it immediately stimulates the act of service in bulls which otherwise appear to be impotent. Moreover, in the present limited experiments with two such bulls the ejaculation was copious and of high quality.

N. J. S.

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[I—Clinical Bovine Mastitis, its Treatment and Control. MURNANE, D. (1946.) *Aust. Vet. J.* **22**. 156-168; **II—Clinical Bovine Mastitis and its Treatment.** HINDMARSH, W. L. (1946.) *Aust. Vet. J.* **22**. 168-171.]

I.—In this paper presented to the A.V.A. Conference in June, 1946, the author gives a comprehensive review of the present-day knowledge on bovine mastitis. He covers a considerable field, describing typical symptoms, the mode and source of infection, special factors favouring spread of infection in a herd, and treatment and control.

He is of the opinion, from his experience in Victoria, that mastitis due to *Str. agalactiae* is largely an acute infection in the initial stages, and not a chronic disease commencing in an insidious manner. He suggests that this acute phase is often missed by the owner, who may have seen it and attributed it to "a chill in the quarter." One of the main contributing factors in cases of clinical mastitis in 25 per cent. to 30 per cent. of cases is considered by Murnane to be damage to the teat orifice and canal.

He maintains that, except where a quarter is abscessed, it is unsafe to make a differential diagnosis in mastitis without a laboratory examination.

Infection in heifers before parturition is discussed—reference being made to the work of several investigators in America—the main conclusion being that the feeding of unpasteurized infected milk to calves is a potentially dangerous practice. Murnane enumerates seven properties that are required if chemotherapeutic or antiseptic agents are to be effective in the treatment of bacteria, and he considers that penicillin comes nearest to the ideal. It has the disadvantage of being relatively ineffective against staphylococci in the infected udder.

Control of mastitis is discussed under the headings, prevention, segregation, and herd management. He considers that prevention by the use of vaccines, autogenous and otherwise, is useful in some cases, but as neither streptococci nor staphylococci are very active antigens little can be expected of vaccines prepared from them.

Segregation to be effective must result in the prompt transfer or disposal of infected animals, the infected cows being replaced with first-calf heifers.

The emphasis in herd management is placed on the necessity of a well-constructed milking shed and adequate sterilizing apparatus, and an intelligent staff.

There is a useful bibliography covering work carried out on mastitis in America, Australia, Great Britain and New Zealand.

In an appendix seven clinical case histories are supplied.

II.—In opening the discussion on Murnane's paper Hindmarsh emphasizes the fact that clinical examination of the udder, and laboratory examination of milk samples, must be closely correlated, so that a true picture of the state of the infection is obtained. He refers to work carried out on mastitis by Stewart in New South Wales, where he infused the infected udders with preparations of the acridine dyes and especially entozon.

Entozon in dilution of 1:1,250 in distilled water was infused into the udder. The results obtained in one herd containing 25 infected animals were that of nine clinical cases four responded to treatment, and of 19 cows carrying infection, but showing no symptoms, 16 responded to treatment.

Stewart concluded that *S. agalactiae* can be eradicated from about 70 per cent. of infected cows by two or three treatments with entozon.

Hindmarsh recounts treatment with sulphanilamide in oil in two herds. The treatment was unsuccessful in one herd, but much of the failure was attributed to the fact that the cows' udders were bruised and excoriated while the cows were proceeding to and fro from the milking bails, which were situated on a rough, stony hillside.

On the second herd, after treatment with sulphanilamide in oil, the clinical results were considered good, although the laboratory reports did not confirm freedom from infection in every case apparently clinically normal.

Hindmarsh quotes Stewart when postulating that some strains of cattle have an innate resistance to udder infection, which may be hereditary.

He states that as many farmers in Australia work single-handed strict observance of sanitation may be beyond them. He considers, too, that treatment for the moment will have to be confined to obviously affected cases.

G. B. C.

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[I—A Study of Nutritional and Biochemical Effects in Sheep of Infestation with ***Trichostrongylus colubriformis.*** FRANKLIN, M. C., GORDON, H. McL., & MACGREGOR, C. H. (1946.) *J. Counc. Sci. Indust. Res.* **19**. 46-60; **II—The Effect on Wool Production of a Mild Infestation with** ***Trichostrongylus colubriformis*** **in Sheep.** CARTER, H. B., FRANKLIN, M. C., & GORDON, H. McL. (1946.) *J. Counc. Sci. Indust. Res.* **19**. 61-64.]

These two papers report on the same series of experiments.

I.—In a single-dosage experiment with larvae of *T. colubriformis* in doses of 37,000 larvae to each of eleven weaners and 59,000 to another, nine died between 22 and 45 days after dosage. Serum calcium decreased by about 20 per cent. to 30 per cent. in five to six weeks, while in two samples obtained just before death values of 5·7 and 4·9 mg. per cent. were recorded, serum inorganic P fell more sharply and more rapidly than did serum calcium, while the changes in serum magnesium were variable but the general tendency was for it to decrease. In the second experiment six weaners were placed in metabolism cages, two were kept as controls and four were dosed with larvae at the rate of 1,500 per head per day for 54 days and 4,500 per head per day for the next 33 days. The dosed lambs showed slower weight increases, and indicated adverse effect on the utilization of protein, calcium and phosphorus through some depression in protein digestibility, and considerable negative balances for calcium and phosphorus: serum Ca decreased to a minimum some 18 days after dosage ceased, serum inorganic P decreased during dosage but had risen again by the time serum Ca was minimal.

II.—The six sheep used in the metabolism trials above were studied for wool production. A 50 sq. cm. area on the right midside of each was closely clipped and tattooed. Wool was clipped off for three periods of 14 days (the control period) and one period of 28 days and three of 14 days (experimental). In those sheep which maintained constant food intake (two controls and two dosed) the wool production of infested sheep was about 40 per cent. of that of the worm-free sheep.

W. M. A.

MUSINGS

Whatever one's attitude of mind—whether one's personal ethos is built on pessimism or on optimism—it is difficult to escape the conclusion that ours is a dying civilization. The Darwinian conception of the struggle for existence as the deciding factor in evolution is once more accepted by biologists as the governing factor in the progress of Life; and yet the trend of events—scientific, economic, sociological—has for the last 100 years tended to the survival of the unfittest: the weakest no longer go to the wall, they are preserved by modern medicine and a paternal State: the strongest are slaughtered in Total War. Both processes are profoundly dysgenic, both upset the balance of Nature, to do which in the long run is always fatal.

Nevertheless, since evolution is irreversible, each one of us, individually and corporately, must play a part. This applies to a profession as to any other body. The *Oxford English Dictionary* defines "Profession" as "a declaration of belief in a religion, vow made on entering, fact of being in, a religious order; vocation, calling." Only in so far as we fulfil this definition do we justify our existence as a body of trained persons devoted to the prevention and cure of animal ailments. So it behoves us to examine carefully whether our belief in our profession, in its mission and potentiality, is such as to make of it a religion. It can only be a worth-while contribution to the community if the welfare of patient and client comes first, and self second; only so can a sense of vocation and of self-respect be maintained. It is not always easy for the isolated practitioner to persist in this attitude to his work, with whatever ideals he may have started his professional career. "The daily round, the common task" must inevitably cloud the horizon and narrow the vision unless there is a determination, an idealism, which rises superior to environment.

How far does present-day veterinary education conduce to this outlook? Does it tend to produce graduates whose early segregation from other sciences, and especially from the humanities, militates against the replacement of the profit-motive by the service-motive? It is fatally easy to develop a state of mind in which one is unable to see the wood for the trees, to regard the barren technicalities of the surgeon as the *summum bonum* of professional endeavour: individual ailments as of equal importance with disease control: disease as positive and health as negative, whereas health must be regarded and studied as a positive entity, to be sought by every means in our power. Only if our education is broadly based can we regard the problem of disease-control as an integral whole, part and parcel of agriculture and of the economic and social structure of the community. On no other basis can we claim recognition of our right to do the work which was our choice in early life, and which can remain our calling in maturity.

P. C.

REPORT

Parliamentary and Scientific Committee Annual Report, 1946

As its sponsors had foreseen, the unofficial nature of the Parliamentary and Scientific Committee has proved a beneficial —indeed a vital—factor in its development. Steadily strengthened by an increasing number of influential adherents in the persons of representatives of both Houses of Parliament and of scientific and technical organizations, there is no doubt that, as was claimed by its immediate Past-President, Viscount Samuel, at a former Annual Luncheon of the Committee, it fulfils a public need in our social and political life. The wide range of these organizations, which include the Royal College of Veterinary Surgeons and the National Veterinary Medical Association, in itself demands and ensures a remarkable diversity of activity.

The scope of the Committee's work is revealed, in summarized form, by the recently issued Annual Report, 1946, and represents an immense volume of enquiry, endeavour and achievement in the realms of science and industry. It is of interest to reflect that the genesis of much of the work of the general committee is typified by increasingly frequent reference in N.V.M.A. minutes to a decision to seek the aid of the Parliamentary and Scientific Committee—perhaps by the promotion of a question in the House of Commons. The impressive list of such enquiries on subjects with which the Committee has concerned itself during the war, included questions to Ministers regarding the campaign for eliminating diseases from dairy herds and on veterinary education.

One of the major concerns of the Association which is accorded mention in the report is the decision of the Committee to make independent representations to the Government in support of the demand for an improved status and a revision of the salary scales for veterinary officers in the employment of the Ministry of Agriculture: "the whole question was still the subject of correspondence at the end of the year." Activity in a kindred field is recalled by the statement that subsequent to the appearance of the White Paper on "The Scientific Civil Service," the Committee followed up its earlier memorandum on the subject with representations that, despite these improved arrangements, the pay and, therefore, the status of Scientific Civil Servants would remain inferior to that of Administrative Civil Servants. The receipt of "Treasury assurance" on the point is recorded. Probably, therefore, more satisfactory has been the outcome of the Committee's co-operation in the steps designed to ensure that all research expenditure shall be recognized as an allowable expense in connection with income tax, which concession came duly into force last April. A helpful achievement standing to the credit of the Committee is the great improvement made in the disposal of scientific apparatus through the Ministry of Supply.

Universities and Scientific Manpower

It was in October, 1943, that the Committee issued a report on the need for increased scientific research and the application of scientific knowledge in post-war Britain, urging that there must be a proportional expansion of the supply of scientific personnel which, in turn, called for expansion of our universities and technical colleges. The Committee's demand for an investigation into the question of research and development in this country was met by the appointment of the Barlow Committee, whose report on scientific manpower was issued in May, 1945. The Parliamentary and Scientific Committee called in experts to study the question in the light of the Barlow Report, and the further report of this Sub-committee, which resulted, and which was published last year, figures prominently in this annual report.

The Sub-committee is of opinion that, in view of the relative pre-war weakness for British economy, in regard to the scientific methods and the demands of the post-war period, 100,000, *i.e.*, nearly a doubling of our estimated pre-war scientific manpower, is the minimum at which we should aim. Industries—and almost certainly, the defence services also—require far more scientific personnel "and," says the Report, "there is considerable scope for the advancement of medical and veterinary science." Quality, however, is of first-class importance. It will be necessary to raise the number of university teachers from 4,000 pre-war to 8,000 or 10,000, but these will only be forthcoming if university teaching is made a much more attractive permanent career. The requisite university expansion should be achieved by building up existing universities and university colleges, but the proposed expansion cannot be realized without a parallel expansion of the secondary schools, and there should be a great extension of education in science in these schools. Loss of independence on the part of the universities should be ensured by some effective organization to provide an active influential consultative body which could conduct regular negotiations with the University Grants Committee. The total capital cost of this expansion—including a complete overhaul of teaching and research accommodation—may well amount to £100,000,000 over the next decade, and the annual expenditure may be expected to rise to something in the vicinity of £30,000,000—provision which should largely be made by Government as an essential investment.

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Thus, we see that the Parliamentary and Scientific Committee, great as is its concern with current problems, is essentially a forward-looking body, and in this connection it is gratifying that our colleague, Dr. W. R. Wooldridge, who was again elected a Vice-President, was appointed a member of the steering Sub-committee established in February, 1946, to plan the future activities of the Committee.

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The Chancellor and the Universities

Both in the letter (reproduced below) to Sir W. W. Wakefield, M.P., Deputy-Chairman of the Parliamentary and Scientific Committee, and in the House of Commons, in reply to Sir E. Graham Little (*see our Parliamentary Columns*), Mr. Hugh Dalton, Chancellor of the Exchequer, states that he is prepared to find the necessary funds to enable the universities to plan a vigorous campaign of development. Everything possible will be done (he says) consistently with the claims of other essential programmes, to ensure them the necessary priorities in men and materials and to make that financial assistance effective.

While in agreement with the main argument of the report on the need for more university-trained scientists, Mr. Dalton considers that there are a number of points in the report which could be challenged. He expresses the view that the number of scientists who will be available in 1955 and 1965 has been under-estimated, and that the number of retirements in the second decade has been put at too high a figure. He estimates that there will be 104,000 by 1965 after allowing for the loss of 18,000 from retirement and 5,000 from choice.

Both the report of the Committee and the Barlow Report, he adds, recognize the necessity for maintaining a balance between science and arts, and he does not dispute that the total of university students must be greatly expanded. He doubts whether expansion can or should be effected to the limit (108,000) suggested in the report. Investigations made by the University Grants Committee suggest that in the next ten years the number will reach 88,000 at the most if academic standards are not to be lowered.

While admitting the long-term needs of expansion of the civic universities, Mr. Dalton shares the Committee's views on the inadvisability of founding a new university at this stage. The up-grading of some of the constituent colleges of London University into the status of full universities is a suggestion which, he says, has much appeal, but opinion in the university is by no means unanimous on the wisdom of such a procedure. The up-grading of other university colleges is an objective with which he is in sympathy.

There are, however, considerable doubts about the advisability of up-grading certain technical colleges. Highly qualified technologists will be in great demand in the future, and there is real danger that such a step would result in technology being neglected for academic work, with consequent loss of skilled workers in industry. The development of colleges of technology and that of secondary schools is, he points out, a matter for the Minister of Education. Mr. Dalton does not agree with the Committee that existing salary scales will be a deterrent to the recruitment of university teachers.

The formation is announced of the Fertiliser Society, having as its objects: (1) the provision of a medium for discussion of scientific and technical aspects of the production, use and application of fertilizers; (2) the promotion of the interchange of views and the dissemination of information to members concerning such scientific and technical aspects. Membership is open to persons engaged in, or associated with, the manufacture of fertilizers, and such other persons as the Council from time to time approve. The annual subscription is one guinea. Dr. G. F. New has been appointed as the Secretary and the offices of the Society are at 44, Russell Square, London, W.C.1.

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All phases of veterinary medicine are needed in public health programmes, and all veterinarians must become active in them.—E. J. McLachlan (Michigan veterinarian).

Questions and Answers

The submission of questions for inclusion in this column will be welcomed: they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.
All communications should be addressed to the Editor.

Milk Fever

Q. CXC.—*What is the best treatment for milk fever that will not respond to calcium and magnesium injections as well as inflation of the udder? Is it true in practice that most cases with a temperature above* 103° *when first seen are less amenable to calcium and should be treated with magnesium at the first visit?*

A.—It would appear that the questioner would be well advised to study some of the very extensive literature on the subject of the metabolic disturbances of the dairy cow, as he seems to be somewhat confused between true milk fever, or parturient paresis, which is a hypocalcaemia, and causes a *sub-normal* temperature, and the so-called lactation tetany, or Hereford disease, which is a hypomagnesaemia, and is often associated with a high temperature. The third of the more common metabolic disturbances, acetonaemia, has a varied course and train of symptoms, and may be difficult to distinguish from the others in some cases.

A careful differential diagnosis must be made before reasonable or logical treatment can be applied, but it is realized that a differential diagnosis may be difficult in the early stages, and it is therefore necessary to cover all eventualities in those cases.

There is no indication for the use of magnesium therapy in true milk fever—in fact it is definitely contra-indicated—and calcium alone is specific in the great majority of cases. Both calcium and magnesium should be used in "lactation tetany," but the prognosis is generally less favourable.

Glucose, intravenously, is specific for the majority of cases of acetonaemia.

Occasionally cases are met which do not respond to the classic treatments. Some of these will respond to udder inflation, but others, unfortunately, make no improvement, in spite of all known therapeutic agents. The great majority of these cases are found on *post-mortem* examination to have other pathological lesions, such as advanced tuberculosis, liver abscess, foreign body, pyelonephritis, etc.

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Laceration of Vaginal Wall in Delivery of Outsize Calves

Q. CXCI.—*Several cases in one district have been met, consisting of laceration of the vaginal wall in cattle owing to delivery of extremely large calves. The majority of cases have occurred in heifers and the occurrence has been seen irrespective of the use of a lubricant. Pelvic cellulitis has been an invariable sequel despite prophylactic therapy and several deaths have occurred. What pathogenic organisms are usually involved in this condition and what prophylactic and curative therapy is indicated?*

A.—There is an undoubted tendency for first-calf heifers to produce large calves, and laceration of the vagina commonly occurs. In such cases difficulty of delivery is increased by doing the heifer too well, with excessive deposition of perivaginal fat. This not only reduces the lumen of the vagina, but if laceration occurs, this fat provides a favourable field for invasion by pathogenic organisms. In not a few cases, too early manual interference is a direct cause of tearing. Such interference may take the form of rupture, by the attendant, of the water bladder immediately or soon after its appearance. This arbitrary and unreasonable inhibition of nature's method of dilating the vagina is commonly practised by owners and attendants, and should be strongly deprecated. This procedure is often followed by violent traction through an improperly relaxed vagina, with the obvious result. It is a golden rule to give heifers plenty of time to achieve natural delivery. There still remain the cases of enormous calves, when parturition is allowed to proceed normally, and yet which cannot be delivered without traction and resultant vaginal laceration—specially in very young heifers.

As to treatment, the achievement of maximum resistance to infection, both generally and locally, appears to be of prime importance. For the former, one suggests clean and hygienic surroundings, light but adequate diet, cod-liver oil and treacle per os, glucose per os or parenterally. The early shedding of foetal membranes is of undoubted importance. In the writer's opinion, stilboestrol 25 to 30 mgs. intramuscularly, by inducing a hyperaemic condition of the vagina, greatly assists in increasing local resistance and facilitating resolution.

Pathogens involved appear to be, frequently, *Corynebacterium pyogenes*, and occasionally *Clostridia*. In the case of the former, recovery commonly follows, but with the latter, a fatal termination has been almost invariable in the past. In the future, one may hope that, as both these organisms are penicillin sensitive, local or general application of this agent will be of great assistance in the treatment of this troublesome condition. Combined sulphanilamide and sulphapyridine pessaries are also of value.

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Concerning Yeast

Q. CXCII.—*Have the different yeasts,* viz., *brewer's yeast, baker's yeast and food yeast, different therapeutic values? What is the best type and the most practical method of administering yeast to pigs when indicated in therapy?*

A.—The comparative therapeutic values of brewer's, baker's and food yeast appear to be about equal, as by analysis the vitamin and amino-acid content are alike. Baker's yeast, as produced by the distilling companies, is presented in pasty blocks which have a bitter flavour and poor keeping quality. Brewer's yeast is a viscid frothy liquid, also with a bitter taste, but it is presented for sale in a dried and de-bittered form. Both have a high vitamin B_1, B_2 and protein content, and for medicinal purposes the dried form is preferable to the baker's or pasty variety. For administration to pigs, it is recommended that brewer's dried yeast be adopted as it is available in vast quantities, and cheap. It can be obtained readily from the English Grain Co., Burton-on-Trent.

The dose for a pig would be approximately 1 to 3 drm.

QUESTIONS IN PARLIAMENT

Universities (New Grants)

Sir E. Graham Little asked the Chancellor of the Exchequer if he will now make a statement regarding the grant to universities which he proposes to make in the forthcoming Budget.

Mr. Dalton: I have received and considered a report from the University Grants Committee on the financial needs of the universities for the five years 1947-52. Before the war Exchequer grants to the universities were settled for periods of five years. I propose to resume this practice in order that universities may plan development with knowledge of the resources they may expect. They will need Exchequer grants on an increasing scale for some time to come, both in order to effect improvements which were due even before the war, and to increase the number of students.

As their needs will be on a rising scale, I propose that Parliament should be asked to provide recurrent grants rising from £9,000,000 for the academic year 1947-48 to £9,970,000 for 1948-49 and thence by annual increments of £650,000 to £11,920,000 for 1951-52. The recurrent grants for the present academic year will amount to between £6,000,000 and £7,000,000. These figures exclude the grants of £500,000 now made to teaching hospitals, which will continue during the financial year 1947-48 and the amount of which for future years has not yet been determined. They also exclude grants for agricultural education, responsibility for which will pass to the University Grants Committee after the current year.

The University Grants Committee estimate that the universities' programmes of development will necessitate during the quinquennium non-recurrent grants amounting to £50,000,000, of which £40,000,000 would be for new buildings and £10,000,000 for acquiring sites, existing buildings and new equipment. I accept this estimate of the need and will do my best to meet it. I am advised, however, by my right hon. Friend the Minister of Works that, even after allowing for a high degree of priority, the best forecast at present possible does not justify the expectation that universities will be able to undertake more than £20,000,000 worth of new building during the quinquennium. I appreciate that such a restriction of the building programme must retard to some extent the expansion which the universities have in view and which, in the public interest, the Government most earnestly desire to see. I am afraid that for the present it would be only prudent to plan on the basis that not more than £20,000,000 worth of new building will be possible during the quinquennium, but I propose to review the position from year to year.

The sum which Parliament will be asked to vote for the financial year 1947-48 is £11,875,000. This figure includes the grants to the teaching hospitals, provision for agricultural education after the present academic year, and £3,500,000 for capital grants.

Attested Herds

Dr. Stross asked the Minister of Agriculture whether he will give an estimate of the percentage of cattle in England and Wales that is free from tuberculosis; and what is the size of the largest clean area in the country.

Mr. T. Williams: I am afraid that it is not possible to estimate the proportion of cattle which, if tested with tuberculin, would pass the test, but cattle in attested herds in England and Wales comprise about 7½ per cent. of the cattle population. With regard to the latter part of the Question, one sizable area in the country contains attested herds only, but in the counties of Cardigan and Carmarthen the proportion of the cattle population in attested herds is well over 50 per cent.

Dr. Stross asked the Minister of Agriculture how many applications he has received in the last quarter of 1946 from farmers in England and Wales stating they have disposed of, or isolated, their reactor animals; and what average percentage of reactors was still found to be present by his Department's veterinary surgeons on subsequent examination.

Mr. T. Williams: Herds of cattle which have passed two successive tuberculin tests without reactors are eligible for entry to the Tuberculosis (Attested Herds) Scheme. Applications in respect of 900 herds in England and Wales were received in the last quarter of 1946. The information asked for in the latter part of the Question could only be obtained after detailed examination of all the records concerned.

Dr. Stross asked the Minister of Agriculture whether he will estimate how long it should take to attain a universal supply of T.T. milk for the whole country, and what steps he is taking to ensure that all farmers are aware of what has been already achieved and how they may obtain assistance.

Mr. T. Williams: The problems associated with large-scale measures for the eradication of bovine tuberculosis are under discussion with farming and other interests, but I am not prepared to hazard an estimate of the time it would take to free the country from the disease. With regard to the latter part of the Question, statements of the progress made under the Tuberculosis (Attested Herds) Scheme are published from time to time, and a leaflet has recently been issued advising farmers on methods of eradicating the disease from a herd. I am sending copies to my hon. Friend.

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Livestock Losses (Severe Weather)

Mr. J. Morrison asked the Minister of Agriculture how many cattle and sheep it is estimated have been lost in England and Wales in the present severe weather and what is their approximate cost, respectively.

Mr. T. Williams: I am afraid that it will be impossible to obtain a reliable estimate of the losses of cattle and sheep until conditions in the districts chiefly affected have improved sufficiently to allow farmers to make a survey of their stock. Arrangements are however being made for a special investigation to be undertaken by officers of the Ministry as soon as conditions permit.

Slaughterhouses, Sunderland

Sir W. Smithers asked the Minister of Food if he has considered particulars which have been sent to him about the conditions of slaughterhouses in Sunderland; and if he will make a statement.

Mr. Strachey: I have seen the report referred to and have arranged for the Sunderland slaughterhouse facilities to be examined by an officer of my Department in consultation with the local chief sanitary inspector. While the premises in use are old, they are quite adequate to their purpose. Considerable improvements have been introduced since the Ministry of Food took over the premises and further improvements are to be undertaken.

Sir W. Smithers: Will the right hon. Gentleman assure the House that before his officer goes there he will have to have a search warrant, and is he aware that the previous information he has given me was based on a misapprehension?

Mr. Gerald Williams: Will the Minister tell us what the Government's policy is as regards the number of slaughterhouses, because we have had two completely conflicting answers from different Ministers. Are there to be more or fewer?

Mr. Speaker: This Question relates only to slaughterhouses in Sunderland.

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Jury Service Exemption

Mr. House asked the Secretary of State for the Home Department if he will take steps to secure exemption from jury service for members of the Register of Osteopaths, the Incorporated Society of Registered Naturopaths and the British Naturopathic Association, all of whom are qualified unorthodox health practitioners.

The Secretary of State for the Home Department (Mr. Ede): The only classes of persons exempt from jury service are those whose exemption is authorized by Statute and legislation for which time is not available would be necessary for the purpose of exempting the persons referred to in the Question.

Mr. House: Is the Minister aware that Cabinet Ministers, ex-Cabinet Ministers, and many other Members of this House attend unorthodox practitioners; and seeing that the interest of the community is better served by unorthodox practitioners attending their numerous patients than sitting as jurors, will he ensure that the matter has the most careful consideration?

Mr. Ede: This and many other matters are for consideration when time is available to legislate with regard to the future of jury service.

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Rabbit Trapping

Mr. Linstead asked the Minister of Agriculture whether he will invite the Agriculture Research Council or other appropriate body to investigate the possibility of devising a humane trap as an alternative to the steel trap now permitted for the taking of rabbits.

Mr. T. Williams: Certain humanitarian organizations have already devoted a good deal of attention to the production of a humane rabbit trap as an alternative to the steel trap. Such a trap has recently been produced, and its possibilities in practice are being investigated. My Department has made arrangements for a full-scale trial to take place at an early date.

NOTES AND NEWS

Diary of Events

April 3rd.—Meeting of the North Wales Division, N.V.M.A., at Ruthin (Council Chambers), 2 p.m.

April 3rd.—General Meeting of the Central Veterinary Society at the Royal Veterinary College, Royal College Street, London, N.W.1, at 2 p.m.

April 9th, 10th and 11th.—Quarterly Meetings of Council, R.C.V.S., 10, Red Lion Square, W.C.1.

April 11th.—Meeting of the Biochemical Society at the Rowett Research Institute, Bucksburn, Aberdeen, 2.30 p.m.

April 12th.—Meeting of the Association of Veterinary Teachers and Research Workers at the Royal Veterinary College, N.W.1, 11 a.m.

April 16th.—Meeting of the Scottish Branch, N.V.M.A., at Stirling (Golden Lion Hotel), 2.30 p.m.

April 18th.—Yorkshire Division, N.V.M.A., Dinner and Dance at Leeds (Guildford Hotel). 7.30 p.m.

April 23rd.—Meeting of the South-Eastern Division, N.V.M.A., at Tunbridge Wells (Mount Ephraim Hotel), 2.30 p.m.

May 23rd.—R.V.C. Students' Union Society Annual Ball, Grosvenor House, Park Lane, W., 8 p.m. to 1 a.m.

July 28th—Aug. 1st.—N.V.M.A. Annual Congress in Edinburgh.

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Veterinary Educational Trust

Appointments of Director, Canine Research Station, and Senior Research Officer to the Trust

Dr. W. R. Wooldridge, Scientific Director of the Veterinary Educational Trust, announces the appointment of Mr. S. F. J. Hodgman, M.R.C.V.S., of Shortlands, Kent, as Director of the new Canine Research Station which is being established, and of Mr. H. B. Parry as Senior Research Officer to the Trust.

In the appointment of Mr. Hodgman to the Directorship of the new station from which so much is confidently hoped in the elucidation of canine diseases, the profession will welcome the selection of one who is well qualified for such responsibility by reason of his great experience in practice and his first-hand acquaintance with research.

Mr. Hodgman served with the British Army in France from 1914-16 and in India until 1923, when he retired with the rank of Captain. He then decided to take up veterinary work with a view to entering the R.A.V.C., but at the time of his qualifying from the London College in 1927 the prospects of a future for the Corps were—happily deceptively—meagre and he turned his attention to civilian practice, acting as assistant to Mr. Pugh at Sevenoaks for two years. A period with the Ministry on foot-and-mouth disease work preceded his notably successful partnership at Beckenham with the late Mr. Cornish-Bowden, an enthusiastic pioneer in the field of canine practice, who soon developed in his

(*Continued on page* 156)

N.V.M.A ANNUAL CONGRESS, 1947

July 28th - August 1st (inclusive)

LIST OF HOTELS, ETC., IN EDINBURGH AND SURROUNDING DISTRICTS

It is desirable that applications for accommodation should be made as early as possible as hotels and boarding-houses are already booking for next summer.

A small number of rooms has been reserved for the Congress week in the following Hotels: Adelphi, Caledonian, George, North British, Royal British, and Roxburghe. Members desirous of staying at any of these should communicate direct with the Local Secretary, Professor A. Robertson, Royal (Dick) Veterinary College, Edinburgh, 9.

Name and Address of Hotel	Terms per Week	Terms per Day
Licensed		
Braid Hills Hotel, Edinburgh	7–8 gns.	—
Caledonian Hotel, Princes St., Edinburgh	9½–12½ gns.	—
Cockburn Hotel, Edinburgh	6 gns.	—
George Hotel, 21, George St., Edinburgh	—	£1/0/6–£1/2/6
Harp Hotel, Corstorphine, Edinburgh	6 gns.	—
North British Station Hotel, Princes St., Edinburgh	—	25/– – 28/6
Queen Hotel, Edinburgh	7–8 gns.	—
Roxburghe Hotel, Charlotte Sq., Edinburgh	—	27/–
Royal British Hotel, 20, Princes St., Edinburgh	8 gns.	—
•Rutland Hotel, 3, Rutland St., Edinburgh	—	12/6–18/6
Unlicensed		
Abercromby Hotel, Edinburgh	4½–5½ gns.	—
Afton Hotel, Grosvenor Cres., Edinburgh	£6/9/6–7 gns.	—
Alexander Hotel, 1, Hunter Sq., Edinburgh	£3/10–£4	—
Alison Hotel, 1, Melville Cres., Edinburgh 3	5–8 gns.	—
Annorma House Hotel, 8, Nile Grove, Edinburgh 10	6 gns.	—
Bellevue Private Hotel, 13, Inverleith Row, Edinburgh 4	4–5 gns.	—
Blair Atholl Hotel, 10, Grosvenor Sq., Edinburgh 12	4½–5½ gns.	—
Carahane Hotel, 1, Peel Ter., Newington, Edinburgh 9	7–10 gns.	—
Carlton Private Hotel, Edinburgh	5 gns.	—
Chimes Hotel, 3, Royal Ter., Edinburgh	6 gns.	—
Clifton Hotel, 53, Promenade, Portobello, Edinburgh	4½–6 gns.	—
Crown Hotel, Torphichen St., Edinburgh	5 gns.	—
Darlings Regent Hotel, 21, Waterloo Pl., Edinburgh	£7/14	—
Donmaree Hotel, 21, Mayfield Gardens, Newington, Edinburgh 9	7–8 gns.	—
Edward Hotel, 57, Gt. King St., Edinburgh	5 gns.	—
Ettrick Private Hotel, Edinburgh	5–6 gns.	—
Gloucester Hotel, Gloucester Pl., Edinburgh	4½–5½ gns.	—
Gordon Hotel, 7, Royal Circus, Edinburgh 3	3½–6 gns.	—
Grange Hotel, 10, Chalmers Cres., Edinburgh	£3/10–4 gns.	—
Green's Hotel, Eglinton Cres., Edinburgh	5½–7 gns.	—
Halcyon Hotel, 8, Royal Ter., Edinburgh	5½ gns.	—
Haymarket Hotel, 1, Coates Gdns., Edinburgh	4 gns.	—
Holme Hotel, 12, Royal Circus, Edinburgh 3	3½–5 gns.	—
Iona Private Hotel, Strathearn Pl., Edinburgh	5 gns.	—
Janette Hotel, 9, Royal Ter., Edinburgh	5 gns.	—
Lea Private Hotel, 69, Leamington Ter., Edinburgh	5 gns.	—
Leamington Hotel, Leamington Ter., Edinburgh 10	7 gns.–£8/15	—
†Magdala Hotel, 4, Magdala Cres., Edinburgh 12	—	7/6–8/6
Maitland Hotel, 33, Shandwick Pl., Edinburgh	5–6 gns.	—
Mayfield Private Hotel, 15, Mayfield Gdns., Edinburgh 9	5½–6 gns.	—
Melrose Private Hotel, 47, Minto St., Edinburgh	4½ gns.	—
Menzies Hotel, 26, Royal Ter., Edinburgh	5 gns.	—
Palmerston Private Hotel, 56, Palmerston Pl., Edinburgh	—	13/6–15/–
Pirie's Hotel, 6, Coates Gdns., Edinburgh	5 gns.	—
Regent Private Hotel, 6, Regent Ter., Edinburgh 7	3½–4½ gns.	—
Rosslyn Private Hotel, 9, Palmerston Pl., Edinburgh	3½–5 gns.	—
Royal Stuart Hotel, 18, Abercromby Pl., Edinburgh	4½–7 gns.	—
Shelbourne Hotel, Edinburgh	£6/9/6	
St. Alban's Hotel, 9, Rutland Sq., Edinburgh	£4/14–£5/10	
St. Andrew Hotel, 8, South St., Andrew St., Edinburgh 2	£6/2/6–7 gns.	—
Suttie's Hotel, Edinburgh	6 gns.	—
Terrace Hotel, Edinburgh	5 gns.	—
Varrich House Private Hotel, 7, Church Hill, Edinburgh 10	5–6 gns.	—
Boarding Houses		
Greenhill House, 12, Strathearn Pl., Edinburgh	4–5 gns.	—
Learmonth Guest House, 11, South Learmonth Gdns., Edinburgh	—	12/6
Mayflower Board Residence, 15, Glenorchy Ter., Edinburgh 9	—	11/– – 12/–
Richmond House, 20, Leopold Pl., Edinburgh	—	9/– – 10/6
Springbank, 22, Bath St., Portobello, Edinburgh	£3/10	—
Tigh-na-Bruaich, 57, Orchardhead Rd., Liberton, Edinburgh 9	5 gns.	—
West Colinton Guest House, Colinton, Edinburgh 13	5 gns.	—
Hotels EAST LOTHIAN		
Goblin Ha' Hotel, Gifford	5 gns.	—
Bissets Hotel, Gullane	7 gns.	—
Linga Hotel, Gullane	6–7 gns.	—
Queen's Hotel, Gullane	Opening in the Spring—Terms not yet quoted	
Ardrulin Private Hotel, Clifford Rd., N. Berwick	7 gns.	—
County Hotel, High St., N. Berwick	5 gns.	—
Dunedin Lodge, N. Berwick	£6	—
King's Knoll Hotel, Clifford Rd., N. Berwick	7 gns.	—
Marine Hotel, N. Berwick	£9/2/6–£12/12/6	
Royal Hotel, Station Rd., N. Berwick	7–8 gns.	—
Castle Hotel, Dirleton	5 gns.	—
Craig-en-Gelt Hotel, Dunbar	6 gns.	—
George Hotel, Haddington	4 gns.	—
MIDLOTHIAN		
Juniper Lea, Blackshiels	5 gns.	—
Harrow Hotel, Dalkeith	6–7 gns.	—
Orford House Private Hotel, Dalkeith	—	15/– – 18/–
‡Melville Castle, Lasswade	5–7 gns.	—
Royal Hotel, Stow	£4/10	—
WEST LOTHIAN		
Cramond Bridge Hotel, Cramond	4 gns.	—
Hawes Inn, South Queensferry	5½–6 gns.	—
Queensferry Arms Hotel, S. Queensferry	£4/7/6	—
Staghead Hotel, South Queensferry	£7–8 gns.	—
Roadhouse Hotel, Near Whitburn	5½ gns.	—
PEEBLES-SHIRE		
Traquair Arms Hotel, Innerleithen	5–6 gns.	—
Green Tree Hotel, Peebles	£5	—
Tontine Hotel, High St., Peebles	5 gns.	—
Waverley Hotel, High St., Peebles	5 gns.	—
Cross Keys Hotel, Peebles	5 gns.	—
Minden Hotel, Innerleithen Rd., Peebles	5 gns.	—
Romanno Bridge Hotel, Romanno Bridge	£4/10	—

• Meals extra. † Bed and breakfast only. ‡ Opening Mar. 1st.

partner a kindred devotion to that work and encouraged him to exercise his flair for surgery in the small animal. Rapidly making a name in canine circles, Mr. Hodgman gained much experience with greyhounds at the Catford Stadium, while on the death of his partner he succeeded Mr. Cornish-Bowden as Veterinary Surgeon to the Kennel Club. During the last war he held—concurrently with his practice—a temporary post with Messrs. Burroughs Wellcome, under Dr. Montgomerie, being responsible for the serum-producing horses at Langley Court, and there showed also that he had a keen appreciation of the application of research to the elucidation of the diseases of dogs.

Mr. Hodgman has played a useful part in the affairs of the N.V.M.A., serving most helpfully for a considerable period as a member of the Editorial Committee. He is an active member of both the Central and the South-Eastern Veterinary Societies, both which have recognized his worth and interest by electing him President, the former for 1945-46 and the latter for the present year.

Mr. Herbert B. Parry comes to his new post with a distinguished record in the field of biochemistry. His studies in the Natural Sciences Tripos secured for him an Honours Degree at Cambridge in 1933. He then undertook researches under now, alas, the late Sir Joseph Barcroft, at the Physiological Laboratory, and also at the Institute of Animal Pathology. After qualifying M.R.C.V.S. from the London College in 1938 he worked in biochemistry as Fellow of the Commonwealth Fund of New York, at the University of Wisconsin, under Professors Hart, Elvehjem and Bohstedt. His special studies overseas have included, in America, the nutritional requirements of man and animals, methods of animal production, and the experimental production of canine hysteria.

In 1940 the University of Sydney, Australia, appointed Mr. Parry as Senior Lecturer in Veterinary Medicine and Materia Medica in the Faculty of Veterinary Science, a post involving complete responsibility for the whole course in Veterinary Medicine, as well as assisting in the development of the McGarvie Smith Animal Farm, with its then newly initiated large-animal ambulatory clinic.

Imperial Chemical Industries secured his services in 1943, when six months were spent travelling in Africa studying animal production, conditions, and disease problems, following upon which came research on chemotherapy at the Biological Laboratories at Wilmslow, chiefly devoted to the clinical assessment of new chemotherapeutic agents and the evaluation of toxicity hazards.

Dr. Wooldridge reports that in connection with research awards for young veterinary students, some 34 undergraduate awards have been made, chiefly to young men who had started their veterinary studies but had been unable to continue them for financial reasons. Eleven research fellowships have also been awarded. Students generally, said Dr. Wooldridge recently, are becoming extremely keen in the affairs and the future activities of the Trust.

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Mr. Walter Hutchinson, the publisher, has presented to the Trust free of all cost, 5,000 copies of an illustrated pamphlet setting forth the objects of the Trust. Many of the coloured illustrations are in the private collection of Mr. Hutchinson.

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At present there are five County Committees of the Trust functioning in Hants, Somerset, Herts, Beds and Kent.

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Messrs. Spillers Ltd. have contributed £1,000 to the Trust, this contribution following in the wake of a similar amount from Messrs. Spratts Patent.

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Major Crowhurst's Visit to America.

Major R. C. Crowhurst, M.R.C.V.S., is back at Newmarket after a ten months' stay in the U.S.A., where he went to observe the experimental work being carried out there among thoroughbred horses and to gain clinical experience in American methods of diagnosis and treatment.

Major Crowhurst, who is reporting his findings to the Veterinary Educational Trust, had the opportunity of studying types and incidence of equine abortion; infertility of mares with infection of the genital tract and diseases of newly born foals.

At Mr. A. B. Hancock's Claiborne Stud he gained experience in pregnancy diagnosis; at the U.S. Bureau of Animal Industry, Washington, nutrition was studied; at the U.S. Army Horse Breeding Station he saw the results of experimental work on periodic ophthalmia and at the Colorado State Veterinary College he studied Dr. Farquharson's methods of intravenous and regional anaesthesias in large animals and in particular his operation for the repair of rectovaginal fistulae in mares. Major Crowhurst took a colour film of this operation.

With the Earl Waldegrave as Chairman and Mr. Roy Clare as Hon. Secretary, the Somerset County Committee of the Veterinary Educational Trust, whose headquarters are at Wells, is making progress among the farmers and stock-breeders of the county. Talks on veterinary research and education are to be given at N.F.U. meetings and at local brains trust gatherings. In the interests of small animals, several ladies have volunteered to assist the County Committee in various areas.

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The Yorkshire Veterinary Medical Association has contributed five guineas to the Trust.

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PERSONAL

Births.—Geary.—On March 23rd, at Brampton, Cumberland, to Margaret Scott (*née* Ferguson), wife of John Geary, M.R.C.V.S., a son, John David—a brother for Patricia Jane.

Smith.—On March 9th, 1947, at the Liverpool Royal Infirmary, to Audrey (Pat), *née* Allom, wife of Douglas C. Smith, M.R.C.V.S., a daughter. Both well.

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Fellowship Elections.—Among those recently elected as fellows of the Royal Society of Edinburgh are Dr. W. P. Blount, poultry adviser to Unilever Group, Stoke Mandeville, Bucks., and Professor Tom Grahame, Anatomy Department, Royal (Dick) Veterinary College, Edinburgh. The newly elected fellows of the Royal Society include Dr. Muriel Robertson, Head of the Department of Protozoology, Lister Institute, London, and Dr. C. H. Waddington, Professor of Animal Genetics, Edinburgh.

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R.C.V.S. OBITUARY

The Late Mr. Geo. W. Foote

A Further Personal Tribute

In our issue of March 8th we recorded with deep regret the death in Guernsey of Mr. George William Foote, a notable "Existing Practitioner," together with an appreciation. We are glad to have the opportunity this week of publishing a further tribute, of special interest inasmuch as the writer is Mr. Eustace J. Lainé, M.R.C.V.S., Mr. Foote's colleague in Guernsey:

Of Mr. G. W. Foote many pages could be written by those of us who knew him: to take one aspect only—his well-told anecdotes and reminiscences were ever a pleasure to listen to.

Above all, however, he was a veterinary surgeon and his professional integrity was acknowledged by all. His life was devoted to his profession and he was at the disposal of all at any hour of the day or night.

Born in July, 1853, Mr. Foote was later articled to Mr. Ware, M.R.C.V.S., and eventually came back to his native Isle to practise for 68 years. As a child I knew him, as I think all did, driving his ponies about at all hours. He never tired of his work and though he lived to his 94th year was working 48 hours before his death.

To my knowledge he never took a holiday since before the first World War and even when ill, which was very seldom, was with difficulty kept from his practice.

From the time that I came back to Guernsey in 1919, he and I were great friends. Never, did I ask his help, was it refused. At any time of the 24 hours he was willing to aid me and others, and I must say I had great faith in his professional ability. What G. W. F. did not know about a Guernsey cow was not worth knowing.

If abrupt at times, within a few minutes he was reminiscent and, believe me, some of his recollections were worth hearing; of the time when he had not used a thermometer, of when milk fever drove him to distraction. Later he had such great faith in inflation of the udder that, though he had calcium and a neo-injector, he never used them. As a diagnostician in the ailments of the cow Mr. Foote was exceptional. He was bilingual, speaking English and French perfectly and patois like the native he was.

If he had a hobby I think it was writing light verse. Though it did not perhaps rise to great heights, yet it gave him great pleasure and to those who heard him recite it, much amusement.

Through all the many years Mr. Foote plodded on, alone in Guernsey through the first war and into the second with the occupation, driving himself about till, in his 91st year, on February 1st, 1944, the Germans took his licence away. We all feared his collapse—but not a bit of it: he still answered the call if fetched and even as late as January, 1946, when I was incapacitated, went to the far end of the Island to calve a cow.

His end, though sudden, was merciful, for which his many friends are thankful.

The esteem in which Mr. Foote was held was shown by the

presence of the Bailiff, the ex-Bailiff and two Jurals of the Royal Court at his funeral.

To me he was a dear friend and he always treated me as a partner.

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GENERAL OBITUARY

Sir Joseph Barcroft, F.R.S.

The sudden death of Sir Joseph Barcroft, the eminent physiologist, which took place at Cambridge on Friday of last week, will be deeply regretted by members of the veterinary profession, many of whom were in close and supremely valued association with him in consequence of the development at Cambridge, under his inspiring leadership, of the important school of research into the physiology of farm animals since his appointment, in 1942, as the director of a team under the Agricultural Research Council. Sir Joseph's interest in the work of the profession was by no means purely academic, as was evidenced by his presence as a revered guest at social functions of the National Veterinary Medical Association. In all company he revealed the charm which was characteristic of his lecturing and writing. He was known throughout the world for his classical work on the transport of oxygen by the blood, and on the nervous system as the source of respiratory movements.

Sir Joseph's active interest in the profession was greatly stimulated by his membership of the Loveday Committee. He set himself diligently to understand the problems confronting the profession and contributed in large measure to the views expressed in the first and second reports of the Loveday Committee; he was, in fact, one of the most ardent supporters of the profession.

Sir Joseph was one of the original members of the Council of the Veterinary Educational Trust and had been chairman of the Trust's Educational Grants Committee. He had agreed to deliver this year's Fison Lectures which were to be given some time in May and which unfortunately now will have to be forgone. For several years, until quite recently, he was a Governor of the Royal Veterinary College, representing the Royal Society, and indeed, in his earlier days he carried out some physiological research at the College.

Sir Joseph Barcroft was elected a Fellow of the Royal Society in 1910, president of the physiological section of the British Association in 1920, and Fullerian Professor of Physiology at the Royal Institution from 1923 to 1926. He was editor of the sixth edition of "Huxley's Physiology," joint editor of the "Cambridge Comparative Physiology" and departmental (physiology) editor of the 14th edition of the "Encyclopaedia Britannica."

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SCOTTISH AGRICULTURAL ADVISORY COUNCIL

Technical Committee's Report

The first report of the Technical Committee of the Scottish Agricultural Advisory Council (states *The Scotsman* in its issue of March 18th) deals with a variety of subjects, including agricultural research, veterinary investigation, and soil survey. The various recommendations have been supported by the Advisory Council and taken up by the Department of Agriculture for Scotland and other bodies concerned.

The Committee supported proposals to establish an Organization of Research Statistics in Agriculture on the following lines: (*a*) A statistical unit to be attached to each research centre to undertake the analysis of the data relating to the work of the centre; and (*b*) major statistical units to be set up at Rothamsted, Cambridge, and Edinburgh to keep in touch with the statisticians at other research stations, to deal with problems which are common to all research stations, and to pay particular attention to the development of statistical technique for agricultural research generally.

The Committee reviewed the position of the Veterinary Investigation Officers' Service, which, though of comparatively recent origin, had proved a great success. They recommended that the Veterinary Investigation Officers' Service should be extended by strengthening the units at the three agricultural colleges, particularly by establishing sub-stations in areas which are some distance from college headquarters.

The Agricultural Research Council consulted the Committee about the need for further experiments with iodinated proteins to stimulate milk production. Experiments had shown that there was danger to the health of the cow in their uncontrolled use. The Committee recommended to the Council that further experiments should be carried out, and the Rowett and Hannah Institutes offered to participate. The work is now in progress.

In connection with the proposal to set up a Soil Research Board or Committee in England and Wales for co-ordinating soil survey work, the Committee were asked for their views on the relationship of Scotland to the proposed Board. They took the view that scientific co-ordination with England was desirable, and that such co-ordination could be secured by means of a suitably constituted Board on which Scotland had adequate representation.

To strengthen the arrangements for ascertaining the problems of the farming industry and passing them on to the research institutes, the Committee recommended to the Departments that more conferences should be held between advisory officers and representatives of research institutes.

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NEW ZEALAND LIFTS STOCK EMBARGO

The 23-year-old embargo on the direct importation into New Zealand of livestock from the United Kingdom has been abolished. The removal of the restriction was announced by the Prime Minister, Mr. Fraser, at a State luncheon at Wellington in honour of Lord Bledisloe, a former Governor-General, who is at present paying a short visit to New Zealand.

The Minister of Agriculture, Mr. Cullen, stated (says *The Farmers' Weekly*) that the change will reduce considerably the cost of bringing high-class pedigree stock to New Zealand. New Zealand had operated an embargo on direct livestock importations since 1924, when serious outbreaks of foot-and-mouth disease were prevalent, but now would come into line with the other Commonwealth countries. Under the regulations now ruling, stock for export to New Zealand have to be domiciled in the United Kingdom for three months, or from birth immediately prior to their removal to a British quarantine station, where the minimum period must be 14 days. The 30-day quarantine in New Zealand is on Somes Island in Wellington Harbour, importers having to ensure that Wellington is the discharge port for stock; but Mr. Cullen said that his Department proposed soon to establish another station at Auckland.

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FARMERS' HEAVY LOSSES

Last week-end the National Farmers' Union Welsh Committee stated that as soon as all the branches had submitted their report on the damage done by the snowstorms and floods it was almost certain to be found necessary to have discussions on Cabinet level to consider the aftermath of the biggest disaster in the history of British farming. In Wales farmers' losses, which have been particularly heavy on the highland farms, are estimated to exceed £3,000,000. Rough estimates for England and Wales as a whole show that the cost in cattle and sheep alone will be over £12,000,000.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Foot-and-Mouth Disease:

Essex.—Rettendon Grange, Battlesbridge, Wickford, Essex (Mar. 20th).

Herts.—High Leigh Farm, Hoddesdon, Hertfordshire (Mar. 24th).

Suffolk.—Ruskbrooke Farm, Milden, Hadleigh, West Suffolk (Mar. 24th).

Swine Fever:

Beds.—Middle Park Farm, Bromham, Bedford (Mar. 19th).

Lincs. (*Kesteven*).—Stone-pit Cottages, Washingborough, Lincoln (Mar. 20th).

Northants.—Derngate House, Welford Road, Boughton, Northampton (Mar. 24th).

Sheep Scab:

Derbyshire.—Manor Farm, Castleton, Sheffield (Mar. 20th).

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PASTEUR EXHIBITION

A Pasteur Exhibition will be held at the Science Museum, South Kensington, from April 10th to May 26th. The exhibition has been arranged and provided with the assistance of the Cultural Relations Department of the French Foreign Office by the Palais de la Découverte in Paris, where it has recently been on show. The Palace of Discovery is an institution devoted to the exposition and explanation of modern science, employing for the purpose the most advanced techniques of visual education.

The Pasteur Exhibition includes a chronological account of the chemical and biological work of Louis Pasteur on fermentation, putrefaction, the spontaneous generation of life, and on the germs of numerous diseases of men, animals and plants. The results of his work are illustrated by panels dealing with pasteurization in the brewing and other industries, and the raising of disease-free

silkworms. A section of the exhibition deals with the Pasteur Institutes established throughout the world for the preparation of serums and vaccines for the combating of disease epidemics.

The exhibition at the Science Museum besides providing an instructive account of this world-renowned scientist, will give the public an opportunity of seeing an example of the methods of visual education now used in France.

[The Science Museum is open, admission free, from 10 a.m. to 6 p.m. on weekdays, including Saturdays and Bank Holidays, and from 2.30 p.m. to 6 p.m. on Sundays.]

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LEGAL NOTES

Animal "Nuisance" at Brighton.—At Brighton Magistrates' Court recently Miss Alice Leigh, 61, of Porthall Road, Brighton, was charged with failing to comply with a notice to abate a nuisance in her house and with failing to keep the premises clean. Mr. R. S. Cross, Chief Sanitary Inspector for Brighton, said in evidence that on March 11th he saw twelve full-sized goats in the kitchen. In the back garden were six chickens and a rabbit, and there were three dogs in a back room on the ground floor. On March 18th he also found six dogs in a room on the ground floor and in the garden in a box he found two kids which, Miss Leigh told him, she kept in the bathroom. As he was leaving one of the dogs got out and killed two chickens. The magistrates made an order for the immediate cleansing of the house and the removal of the animals. Miss Leigh was told that if the order was not complied with in a week she would incur a penalty of £2 a day afterwards.

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CHEMICAL SOCIETY'S CENTENARY

As intimated in our issue of March 22nd, the centenary next July of the Chemical Society will be celebrated by an exhibition at the Science Museum, South Kensington, which will illustrate the development of chemistry in Britain and its place in the everyday life of the community. The exhibition will remain open to the public until the end of September.

At a luncheon of the Society in London, on Thursday of last week, Professor C. N. Hinshelwood, the President, said that so far £18,000 had been subscribed to the centenary appeal, which it was hoped to devote to a fund to bring eminent foreign scientists to this country to address the members. He added that the Society's membership now exceeded 6,000. Like the science of chemistry, the Society was in a flourishing state, and its relations with industry were excellent.

Lord Bennett, President of the Royal Society of Arts, in proposing "Success to the future of the Chemical Society," paid a tribute to Sir Harold Hartley, who was present, and said that his recent commemorative address on 100 years of chemistry was a masterly and brilliant survey of the achievements of the Chemical Society in the past 100 years, and he believed that it would be read with increasing interest in years to come.

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TUBERCULOUS CATTLE

"The attested herds scheme, begun in 1935, can be regarded as the first real attempt to reduce the incidence of bovine tuberculosis in this country; and it was certainly the first to be based on systematic use of the tuberculin test," states *The Lancet* in a recent annotation, which continues: "The progress of the scheme and the various methods that may be used to get rid of tuberculosis in cattle were recently described by Francis,* and elsewhere in this issue a veterinary correspondent summarizes some interesting new developments in tuberculin testing.

"From the standpoint both of public health and of human nutrition the eradication of bovine tuberculosis is probably the most important measure which can be taken by the milk producer. It is therefore surprising that under the Milk Industry Act, 1939, a farmer who raises calves instead of selling milk receives no reward for establishing a tubercle-free herd, and the farmer who sells milk receives no reward unless his buildings are of such a standard that they can be licensed for the production of tuberculin-tested milk, for which he receives 2½d. per gallon more than for milk of the 'accredited' standard of cleanliness. Since the removal of the old capitation bonus there has been little incentive, where milk is not sold, to maintain or create tubercle-free herds, and many dairy herds which a few years ago could readily have been freed from tuberculosis are now heavily infected because of the purchase of heifers from infected sources. Of the farmers who sell milk, many are now in a stronger financial position than before the war, and would face the expense of eradication if they could get the tuberculin-tested milk bonus; but they may be unable to obtain the necessary licence without expensive alterations to buildings, which the landlord often cannot afford and for which in any event labour and material are lacking. The insistence by local medical authorities on certain building standards for cowhouses, though in itself desirable, is thus retarding the establishment of tubercle-free herds.

"The position could perhaps be remedied by reintroducing the capitation payment for all tubercle-free herds, so as to compensate for the expense of eradication in herds whose milk is not sold. With proper grading there could be an additional benefit for tuberculin-tested milk, but instead of the licence depending partly on a somewhat arbitrary building standard it might depend on the quality of the milk as determined by laboratory tests over, say, a six-month period. In some parts of America milk grading is based entirely on laboratory tests, irrespective of conditions on the farm. While it may seem retrograde to abandon definite building standards, the fact remains that if a farmer has the ability and enthusiasm to produce clean milk under difficult conditions, and in addition desires to eradicate tuberculosis, he ought not to be prevented by factors outside his control. The veterinary profession and the farming community seem ready to begin a campaign against tuberculosis, and it may be wise to make some temporary sacrifice in building standards so as to let them go ahead."

* Francis, J. *J. R. sanit. Inst.* **1946. 66.** 355.

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DECLINE IN PIG POPULATION

Reference to the rapid decline of the pig population was made by Mr. W. Ball at a meeting of the Gloucestershire Branch of the N.F.U. (states the *Farmer and Stock-Breeder*). Mr. Ball said that the pig population in Canada, Ireland and Denmark, which were normally the countries with which we had to compete, was not only being increased but was being improved, whereas we were standing still.

One way in which it was thought the future of pig policy could be tackled was by getting together all interested parties, such as feeders, curers, breeders, breed societies and consumers, to decide upon the best type of pigs and the best method of breeding, by which we could in the future compete with overseas products. Almost every farmer in the country could keep some pigs.

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Dr. J. N. B. Coppock, of Newark, Nottingham, has been appointed director of research for the British Baking Industries' Research Association, which will make a scientific investigation of nutritional problems.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
Feb. 16th to 28th, 1947	1	14	2	1	—	2
Corresponding period in—						
1946	3	—	—	—	8	22
1945	4	12	—	1	5	28
1944	7	—	—	—	6	18
Jan. 1st to Feb. 28th, 1947	10	63	2	1	13	10
Corresponding period in—						
1946	21	17	—	4	24	112
1945	22	37	—	2	16	173
1944	46	3	—	3	46	97

NOTE.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at February 28th, 1947, was as follows:—

England	Wales	Scotland	Total (Great Britain)
7,456	10,414	8,308	26,178